LOCALLY-LED ADAPTATION PROJECT/PROGRAMME PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	**Strengthening Community-Led Climate Adaptation and Resilient Livelihoods in the Angkor-Phnom Kulen Heritage Landscape, Cambodia**
Country:	Cambodia
Thematic Focal Area:	Food Security and Ecosystem Based Adaptation
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	United Nations Human Settlements Programme (UN-Habitat)
Executing Entities:	National level Ministry of Environment (MoE) Local level Siem Reap Administration, Local Communities, and NGOs partners
Amount of Financing Requested:	4,999,420 (in U.S Dollars Equivalent)

Project Formulation Grant Request (<u>available to NIEs only</u>): Yes ☒ No ☐

Amount of Requested financing for PFG: 120,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☒ This concept has been submitted before

☐ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: 7/3/2026

A. Project/Programme Background and Context

1. National Context

Cambodia is a lower-middle-income country in Southeast Asia, covering 181,035 km² and sharing borders with Thailand, Laos, and Vietnam. It has a 435 km coastline and an exclusive economic zone of about 55,600 km.[1,2] The country is divided into 24 provinces and Phnom Penh (Capital city), which are further split into districts, communes, and villages. Since the late 1990s, decentralisation reforms have aimed to give more power to local governments, but many local officials still lack the technical skills needed to manage these new responsibilities. This often leads to inefficient use of resources and weak enforcement of policies.[3] Topography comprises central lowland plains ringed by uplands (Cardamom Mountains, Dangrek Range, Annamite Chain[4]); national hydrology is dominated by the Mekong River and Tonle Sap Lake system, critical for agriculture, fisheries, and water supply.[5]

Cambodia's population is about 17.8 million as of January 2025, growing at 1.19% per year. Around 75% of people live in rural areas. The average household has 4.6 people, and the population density is 93 people per km² (2020), which is higher than in Laos but lower than in Thailand and Vietnam.[6,7] The country's Human Development Index is 0.600 (2022), placing it in the medium category at 148th out of 193 countries. The Gender Inequality Index is 0.461, indicating persistent gaps in income, education, and political participation, particularly among rural women. [8, 9] Cambodia's economy is still limited and sensitive to climate: about 39% of the workforce is in agriculture, which made up 22.85% of GDP in 2021. [10] Tourism recovered after COVID-19, with 5.5 million visitors in 2023, bringing in about USD 3 billion (12.1% of GDP). [11] Construction and garment manufacturing are also at risk from climate impacts through supply chains, worker productivity, and vulnerable infrastructure.

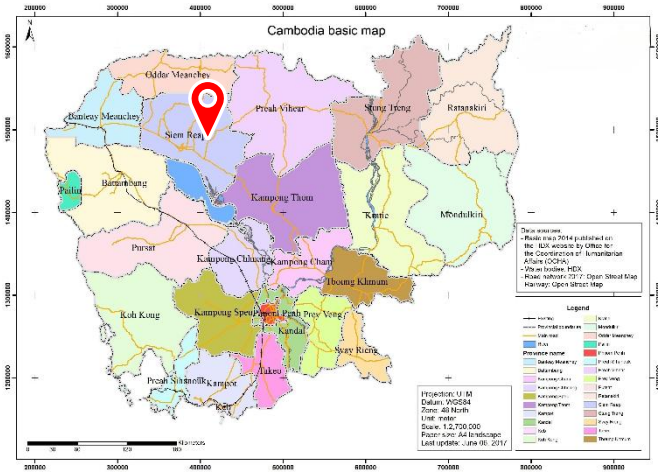


Figure 1 *Map of Cambodia showing the Project Area*

Cambodia is one of the most climate-vulnerable countries in Southeast Asia. [12] It ranked 14th out of 181 countries on the Global Climate Risk Index for cumulative risk from 2000 to 2019,[13] and 84th in 2019 alone. The country has suffered significant losses compared to its GDP (86th) and purchasing power parity (97th).[14] If high-emission scenarios continue, temperatures could rise by 3.7°C by the 2090s. Under another scenario, the number of extremely hot days (over 35°C) could increase from about 53 per year (1995–2014) to nearly 83 per year by mid-century.[15] Rural communities, especially smallholder farmers, women, and ethnic minorities, are most at risk. More than 80% of Cambodia's farmland is used for rice, but only 14% is irrigated.[16] Most plots are under two hectares and depend on rain. Droughts and floods often destroy crops and assets, leaving floodplain communities vulnerable. These problems are worse for women; 64% who rely on primary forests for income report faster forest loss, and for the wider population, as 77% of Cambodians say slow-onset hazards are harming their mental health, with women affected more than men.[17] These challenges directly threaten progress on SDGs 1, 2, 5, 6, 13, and 15.

2. Observed and Projected Climate Trends

Climate projections indicate that heat stress, floods, and droughts are increasing nationwide. Without intervention, climate change could reduce Cambodia's GDP by 2.5% by 2030 and nearly 10% by 2050.[18] Between 1991 and 2014, extreme events such as floods and storms caused over 1,500 deaths and US$235 million[19,20,21,22] in damages. The 2015–2016 drought affected 18 of 24 provinces

[1] Ministry of Environment & United Nations Environment Programme (2009). *Cambodia Environment Outlook*. Kingdom of Cambodia
[2] CIA World Factbook. (2024). Cambodia – Geography.
[3] Vanny, M., Adnan, M. F., Sok, V., Choeun, K., & Neau, S. (2024). Local Implementation of Decentralisation Policies in Cambodia. *Innovative: Journal of Social Science Research*, *4*(4), 5642-5655
[4] Ministry of Environment (2022). *Third National Communication to the United Nations Framework Convention on Climate Change*. Kingdom of Cambodia.
[5] Ministry of Environment (2002). *Initial National Communication under the United Nations Framework Convention on Climate Change*. Kingdom of Cambodia.
[6] https://data.worldbank.org/indicator/EN.POP.DNST?locations=KH
[7] Ministry of Planning (2019). Migration in Cambodia: Report of the Cambodian Rural Urban Migration Project (CRUMP). Kingdom of Cambodia.
[8] 2021-22, p 293
[9] Ministry of Planning (2019). Migration in Cambodia: Report of the Cambodian Rural Urban Migration Project (CRUMP). Kingdom of Cambodia.
[10] World Bank Climate Portal. (2023). *Climate Data for Cambodia*.
[11] Ministry of Tourism. (2023). *Tourism Statistics Report.*
[12] Yusuf, A. & Francisco, H. (2009). Mapping Analysis. Climate Change Vulnerability Mapping for Southeast Asia. EEPSEA: 2009. http://www.eepsea.org/pub/tr/12324196651Mapping_Report.pdf
[13] Germanwatch (2016). Global Climate Risk Index 2016: Who Suffers Most from Extreme Weather Events? Weather-Related Loss Events in 2016. https://germanwatch.org/sites/germanwatch.org/files/publication/13503.pdf
[14] Germanwatch (2021). Global Climate Risk Index 2021: Who Suffers Most from Extreme Weather Events? Weather-Related Loss Events in 2019 and 2000-2019. https://germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_1.pdf
[15] World Bank (2024). Climate Risk Country Profile: Cambodia
[16] Community Based Climate Change Adaptation through Agriculture: Experiences from Cambodia (2018): https://ncsd.moe.gov.kh/sites/default/files/2019-06/Community%20Based%20CC%20Adaptation_Agriculture_English.pdf
[17] GENDER AND ENVIRONMENT SURVEY 2024 Report: https://www.wocan.org/wp-content/uploads/2025/10/cambodia_gender_and_environment_survey_en.pdf
[18] Department of Climate Change (2018). *Modelling of Climate Change Impacts on Growth*. Ministry of Environment, Kingdom of Cambodia. http://www.camclimate.org.kh/en/policies/ncsd-news/445-445.html
[19] Global Climate Risk Index (2016). https://germanwatch.org/fr/download/13503.pdf
[20] UNISDR (2017). Global Risk Assessment 2017. http://www.preventionweb.net/countries/khm/data/
[21] International Disaster Database (2017). EM-DAT 7
[22] Index for Risk Management (INFORM) Country Risk profile for Cambodia, 2017. http://www.inform-index.org/Countries/Country-profiles/iso3/KHM

and Phnom Penh (Capital city) and 2.5 million people. In 2019, the El Niño drought resulted in US$100 million in rice losses, two-thirds of which could have been avoided with timely investment in climate-resilient infrastructure. In 2023, a heatwave raised temperatures above 42°C. These challenges threaten the National Strategic Development Plan 2019–2023.

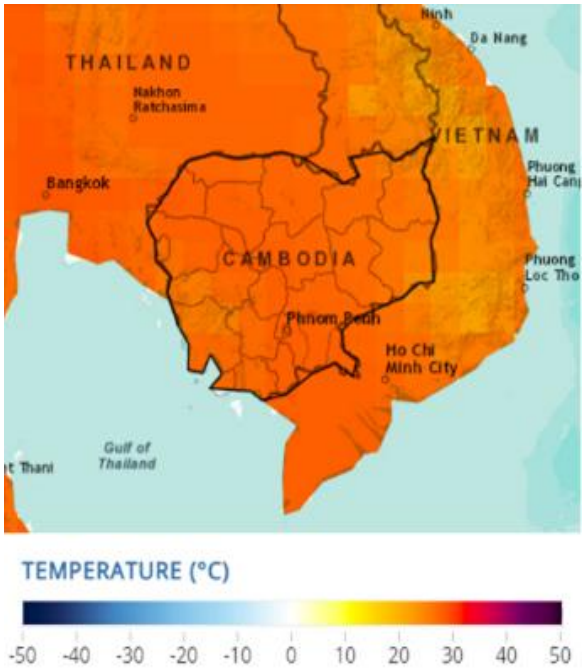


Figure 2 *Observed climatology of mean-temperature (1991 – 2020 Cambodia)*

a. Temperature

Cambodia's tropical climate features two main seasons. The rainy season, from May to October, delivers 80–90% of annual rainfall. The dry season, from November to April, sees average lows of 17°C in January. Annual temperatures range from 25°C to 27°C, with daily highs of 30–35°C and peaks up to 41°C.[23] Siem Reap and surrounding areas already experience high temperatures. Long-term data show a steady temperature increase, projected at 0.013–0.036°C per year through 2099, especially in the south.[24] The number of hot days has risen by up to 46 days per year over the past century. In Siem Reap, days above 35°C may rise from about 140 per year (2020–2039) to about 197 per year (2040–2059).[25] Hot nights (above 26°C) are also expected to become more frequent. These trends inform project activities, including ecosystem and forest restoration (Outputs 2.2–2.3) and community-based early warning for extreme heat (Outputs 2.7/1.2).

b. Rainfall

Rainfall predictions are less certain than temperature forecasts, and rainfall varies significantly across Cambodia. Global models indicate annual rainfall will increase by 2030. Typhoons and tropical depressions from Vietnam frequently cause heavy rain and flooding. The UNDP reports wet-season rainfall could intensify by up to 14%. In September 2022, heavy rain flooded 14 provinces, affecting about 85,000 households and displacing 5,000 families.[26] These events demonstrate that extreme rainfall can cause floods, landslides, and mudslides, resulting in significant property damage and social and economic losses. Siem Reap faces similar risks**.**

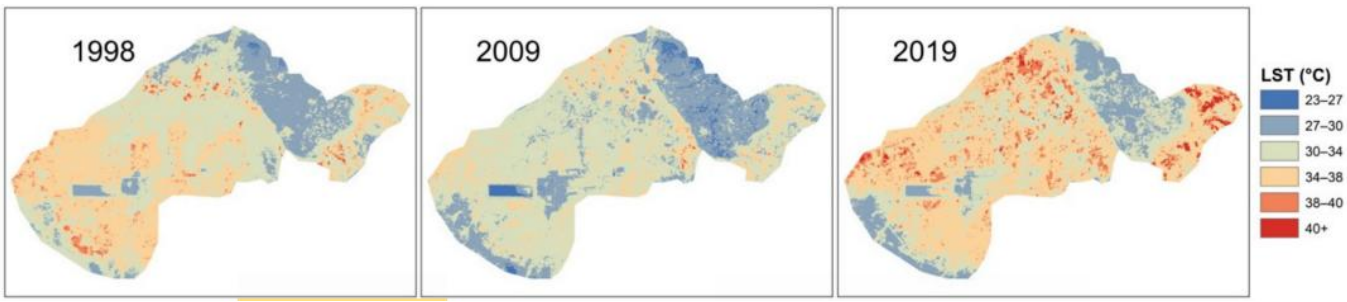


Figure 3 *Results of land surface temperature (LST) variation from 1998 to 2019 in the Greater Angkor Region.*

Siem Reap has experienced heavy monsoons and flash floods in 2020 and 2022. The 2022 flood alone affected more than 19,000 hectares of rice fields (ReliefWeb, 2022), and cities are struggling with overloaded drainage systems (MoE, 2022). The fish population in Tonlé Sap Lake declined by 87% between 2003 and 2019 (Rockefeller Foundation, 2021). Chim et al. (2021) project that Siem Reap's average annual rainfall could decrease by 56–61% and dry-season rainfall by 60–66%[27] under various climate scenarios. This highlights the need for forest maintenance and replanting to sustain rainfall, store carbon, and cool catchments[28], as well as short-term flood control and long-term water storage. These trends inform Output 2.4 (water retention/buffering) and Output 2.1 (water-efficient irrigation). Flood-specific actions are detailed in Output 2.2, 2.6 and 2.7.

c. Drought

Drought continues to be a significant challenge for Cambodia's rural farming communities. [29] Poverty, limited irrigation, inadequate water storage, low productivity, and reliance on rain-fed agriculture increase their vulnerability. [30] Drought has caused significant losses in Cambodia's rice production. From 1996 to 2000, about 20% of the potential rice harvest was lost. The 2004 drought affected over 300,000 hectares and reduced expected yields by about 82%. Droughts damaged more than 1,000 hectares of paddy

[23] Cambodia National Climate Report Part 1 (2026, January)
[24] Ibid.
[25] World Bank (2024). Climate risk country profile: Cambodia
[26] World Bank (2023). Acting on Climate Change is Key for Cambodia to Achieve its Development Goals
[27] Chim, K., Tunnicliffe, J., Shamseldin, A., & Chan, K. (2021). Identifying future climate change and drought detection using CanESM2 in the upper Siem Reap River, Cambodia. *Dynamics of Atmospheres and Oceans*, *94*, 101182.
[28] Ibid.
[29] Chhinh, N., & Millington, A. (2015). *Drought monitoring for rice production in Cambodia*. Climate, 3(4), 792–811.
[30] Nguyen, H., et al. (2009). Adaptive drought risk reduction in Cambodia: Reality, perceptions, and strategies.

in at least 7 of 13 years between 1994 and 2011, indicating a recurring problem. [31] Because droughts develop gradually,[32] institutions often struggle to respond quickly. This underscores the importance of local water resource management. Community-led drought management, improved water storage, small-scale irrigation, drought-resistant crops, and ecosystem-based water regulation have proven effective. Figures 4[33] and 5 indicate that Siem Reap is primarily at risk from repeated flooding and changing rainfall, rather than severe drought. However, dry-season water shortages and unpredictable rainfall continue to affect rain-fed farming.[34] These trends inform Output 2.1 (climate-smart, water-efficient agriculture), Output 2.2 (forest/watershed restoration), and Output 2.4 (water retention and sediment clearance).

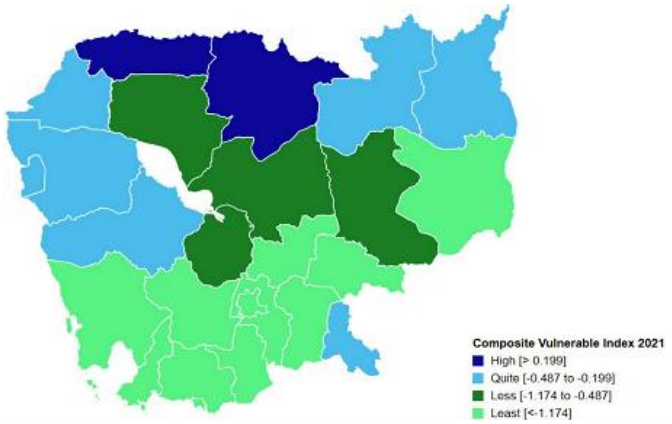


Figure 4 *Composite Vulnerability Index*

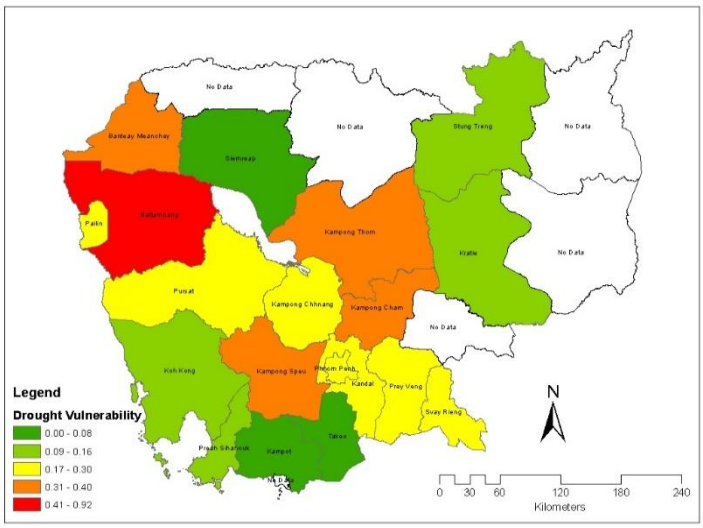


Figure 5 *Drought vulnerability provinces*
(Source: UNDP (2019), Drought Baseline Study of Cambodia)

d. Flooding

Flooding is a significant issue in Siem Reap, primarily due to heavy monsoon rains and inadequate drainage. This was evident during the flash floods in 2020 and 2022, with the 2022 floods alone affecting more than 19,000 hectares of rice fields (Section 2b). The UNDP projects wet-season rainfall could intensify by up to 14%, increasing the risk of flash floods in urban and surrounding areas with poor drainage. These trends inform Output 2.4 (water retention), Output 2.8 (flood-resilient sewerage), and Output 2.7 (flood early warning).

e. Heatwaves

Extreme heat is becoming an increasing concern in Siem Reap. The number of very hot days and nights is expected to increase substantially by mid-century (see Section 2a). In 2023, temperatures exceeded 41°C across Cambodia. Heat stress reduces productivity in agriculture, construction, and tourism, and most affects outdoor workers, older adults, pregnant women, and young children. These risks are being addressed through ecosystem restoration and reforestation (Outputs 2.2–2.3) and community-based early warning systems (Outputs 2.7).

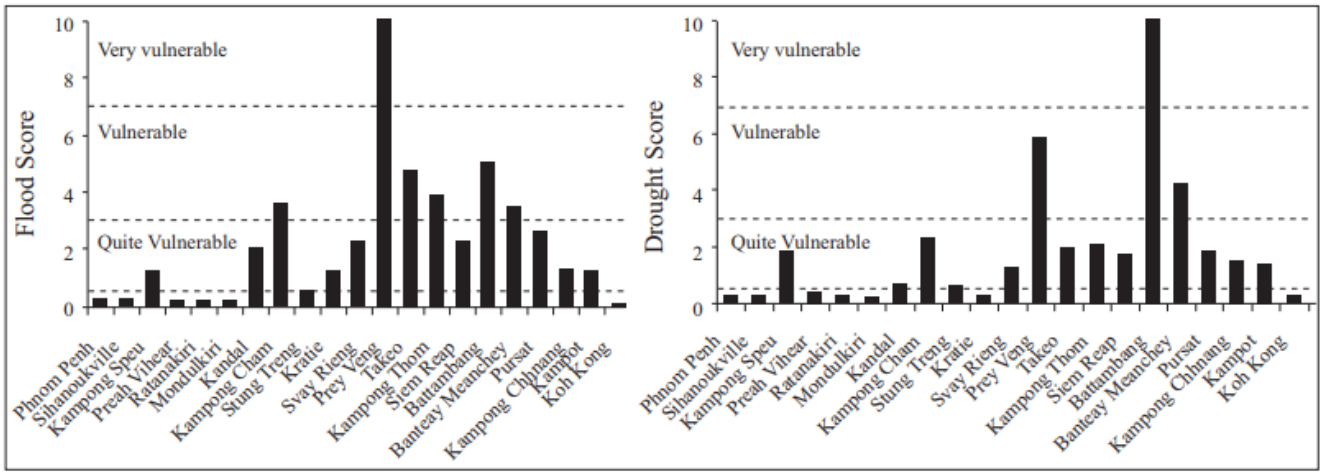


Figure 6 *Level of vulnerability to flood and drought by province, 1982 to 2002 (Source: (MoE, 2005) cited by CDRI (2013))*

3. Project Area

a. Siem Reap Province

[31] Ibid
[32] Pereira, J. J., Pulhin, J., Chhinh, N., Trong, T. D., & Satari, S. K. (2019). *Appraising slow onset hazards for loss and damage: Case studies in Southeast Asia*. APN Science Bulletin, 9(1), 45–51.
[33] Usamah, M., Basnayake, S., Center, A. D. P., Dashora, L. K., & Clingeleffer, K. Drought Baseline Study in Cambodia Drought Baseline Study in Cambodia.
[34] CDRI (2013). Climate Change Adaptation and Livelihoods in Inclusive Growth: A Review of Climate Change Impacts and Adaptive Capacity in Cambodia.

Siem Reap Province is internationally known for the UNESCO-listed Angkor Archaeological Park (~400 km², ancient temples, forest landscapes, historical hydraulic systems; UNESCO, 2013), spanning elevations from 6m at Tonle Sap Lake to 469m at Phnom Kulen (Figure 7).[35] The province's population exceeds one million (NIS, 2019), mostly rural and dependent on agriculture[36], fisheries, or tourism-related informal livelihoods; 100,000 residents live in 112 informal settlements within or near the park boundaries, lacking secure housing, drainage, potable water, and social protection,[37] and highly vulnerable to heatwaves, flash floods, and ecosystem degradation (Rasid, 2020); the existing sewerage network meets only about half of Siem Reap's needs. Food insecurity and debt are acute: 32.3% of households report severe food insecurity, and 59.4% report household debt (Jacobson et al., 2022). Tourism remains the economic cornerstone (2.2 million Angkor visitors, US$99 million in ticket revenue in 2019), yet 26% of the population still lives in poverty, and rapid tourism growth and urban expansion increasingly pressure water, land, and ecosystems.[38]

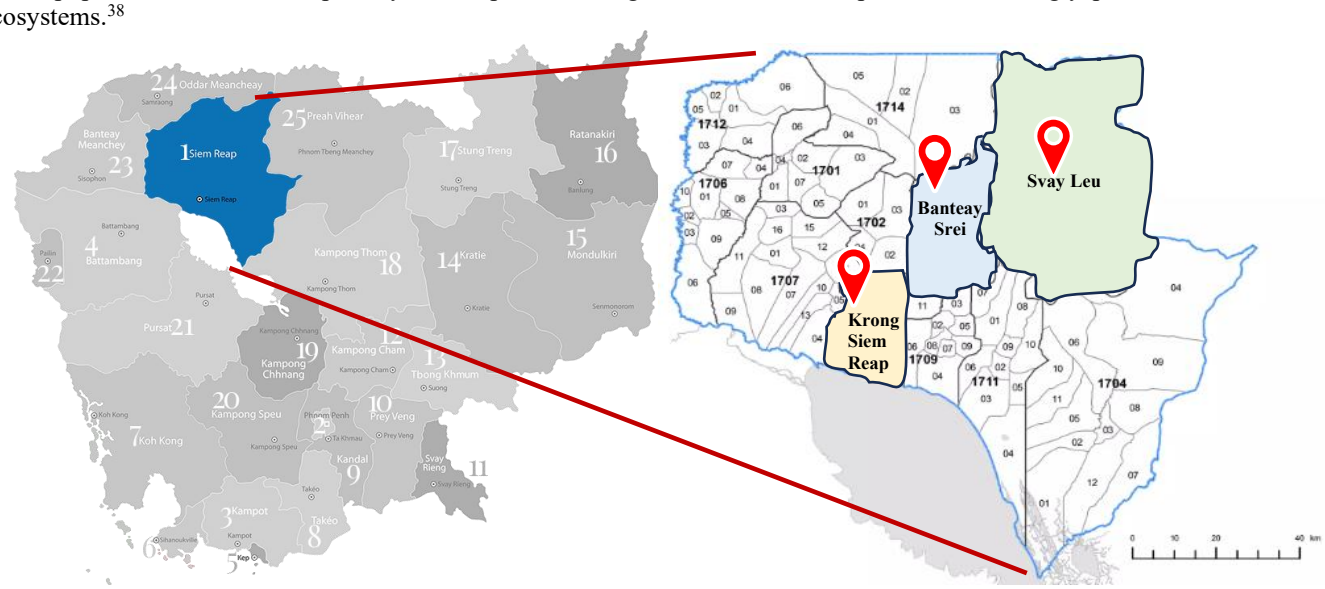


Figure 7 *Map of Cambodia (left) and Siem Reap Province (Right)*

Climate impacts in Siem Reap are multidimensional, affecting heritage, economies, ecosystems, and social well-being. Heatwaves and droughts reduce rice yields, while intense rainfall damages roads, homes, and occasionally heritage structures (ADB, 2022); informal settlements are especially vulnerable because of limited climate-resilient housing and drainage. Women, children, older people, and persons with disabilities face compounded impacts from mobility constraints and unequal resource access. Rashid (2020) found youth and lower-income households remain tied to fishing and subsistence farming as prolonged dry seasons constrain access to tourism-related employment. Despite a progressive national decentralisation framework, stakeholder consultations found sub-national authorities face a capacity gap that impedes integrating climate adaptation into local plans. Strengthening climate resilience in Siem Reap therefore requires integrated approaches: nature-based solutions, climate-resilient infrastructure, and targeted capacity development that address infrastructure gaps, ecosystem health, and adaptive capacity while safeguarding the Angkor cultural landscape. These interventions are locally led: communities identify and prioritise actions, Community Development Committees (CDCs) manage implementation and finance through Community Implementing Agreements (CIAs), and benefits accrue directly to local stakeholders.

b. Strategic Nodes: Krong Siem Reap, Svay Leu, and Banteay Srei Districts

The project targets three high-priority areas combining high ecological value with elevated climate vulnerability and socio-economic sensitivity: Krong Siem Reap, Svay Leu, and Banteay Srei, with a combined population of 376,850 (189,577 female, 187,273[39] male).

Table 1 *Demographic information of three target city/districts*

Districts	# of HH	Population			Age		
		Total	Male	Female	0-17	18-60	Above 60
Krong Siem Reap	58,922	276,258	137,294	138,964	92,543	153,224	30,491
Svay Leu	11,136	51,072	25,508	25,564	22,519	25,193	3,360
Banteay Srei	11,133	49,520	24,471	25,049	19,155	26,552	3,813
Total	**81,191**	**376,850**	**187,273**	**189,577**	**134,217**	**204,969**	**37,664**

Source: Status Socio-Economic and Profile of three target city/ districts (2022 & 2023**)*

i. Krong Siem Reap

[35] Venkatappa, M., Sasaki, N., Anantsuksomsri, S., & Smith, B. (2020). Applications of the Google Earth Engine and phenology-based threshold classification method for mapping forest cover and carbon stock changes in Siem Reap province, Cambodia. *Remote Sensing*, *12*(18), 3110.

[36] Seak, S., Khan, L., Spoann, V., Phat, C., Choeun, K., & Seak, S. (2023). Using the Socioeconomic Indicator Analysis to assess the Urban Vulnerability for Building Urban Resilience: A Case Study in Siem Reap City, Siem Reap Province. *Insight: Cambodia Journal of Basic and Applied Research*, *5*(2), 34-47.

[37] Rashid, T. (2020). Local community and policymaker perspectives on sustainable livelihoods, tourism, environment and waste management in Siem Reap/ Angkor, Cambodia. *International Journal of Asia-Pacific Studies*, *16*(1).

[38] Rashid, T. (2020). Local community and policy maker perspectives on sustainable livelihoods tourism, environment, and waste management in Siem Reap, Angkor, Cambodia. *International Journal of Asia-Pacific Studies*, *16*(1).

[39] Status Information Document on Economic and Social Affairs of three target city/ districts (2023)

Krong Siem Reap, the provincial capital and main gateway to Angkor Archaeological Park, comprises 12 sangkats and 99 villages. In 2022, it had 58,922 households and a population of 276,258. Most households have improved latrines (97.85%) and access to clean water (98.75%), but only 42.80% benefit from solid waste collection, resulting in blocked drains and increased urban flooding. Although primarily urban, the city still depends on agriculture, and it is linked to the Kulen watershed. In 2022, severe storms flooded 289 households and damaged approximately 7,600 meters of infrastructure across three communes. Addressing these challenges requires a combination of nature-based drainage, improved waste management, and a climate-smart agriculture pilot. Krong Siem Reap is closely connected to Svay Leu and Banteay Srei, forming an interdependent urban-rural system that shares watersheds, ecosystem services, food and labour flows, and tourism. The city's resource demands and waste disposal place pressure on surrounding rural districts, while damage to rural ecosystems reduces water security, increases migration, and heightens tourism risks. The project's adaptation plan addresses these issues by working across the entire heritage landscape to ensure benefits and costs are distributed equitably.

ii. Svay Leu District

Svay Leu District is a predominantly rural, low-density area in northeastern Siem Reap, comprising five communes and 34 villages. In 2022, it had 11,136 households and a population of 51,072. Access to basic services remains limited: 68.3% of households have improved latrines, 33.3% use clean water, and only 1.21% are covered by solid waste collection. The majority of households (89.2%) rely on agriculture. The district is located near Kulen Mountain National Park and includes five forest protection communities. In 2022, storms and flooding affected 11 households, drought impacted 73, and extreme weather damaged approximately 17,650 meters of infrastructure. These impacts are significant for a dispersed rural population with limited safety nets.

iii. Banteay Srei District

Banteay Srei District, an agro-ecological and heritage area in the Angkor–Kulen region, consists of six communes and 36 villages. In 2023, it had 11,133 households and a population of 49,520. Most households have improved sanitation (91.03%) and access to clean water (96.95%), but only 22.73% have access to solid waste collection. The district's proximity to the Kulen mountain range supports forest cover and ecosystem services. Seasonal streams from the Kulen watershed enable dry-season farming, the primary source of income for 76.49% of households. Recent data indicate that storms, flooding, and drought have affected up to 387 households, while extreme weather has damaged 2,365 meters of infrastructure. Rural households have limited resources to recover from such losses.

Overview of existing/target five forest protection communities

Svay Leu has five forest protection communities (Table 2), each comprising 73 to 220 households managing 82 to 306 hectares of protected watershed. All were established in 2003 under MoE Prakas No. 165 and strengthened in 2017 through Forest Protection Community Committees establishment. Most residents rely on small-scale farming, supplemented by some income from livestock.

Table 2 *Overview of existing/target five forest protection communities in the Svay Leu district*

	Target districts				
	Prey Thom Popel	**Chop Ta Sok**	**Prey Thom Anlong Thom**	**Prey Phnom Mnas**	**Prey Phnom Kduoch**
Location	Porpel Village, Khnang Phnum Commune	Khla Khmum Village, Khnang Phnum Commune	Anlog Thum Village, Khnang Phnum Commune	Ta Penh Village, Khnang Phnum Commune	Sangkae Lak Village, Khnang Phnum Commune
Number of households	96	73	220	134	98
Protected Area (hectares)	188	306	270	82	90
Established Year of Community	Prakas No. 165 issued by the Ministry of Environment on 13 May 2003				
Established Year of Committee	Communal Deika issued on 12 May 2017				
Community Committee	9 members, of whom two are women.	9 members, of whom two are women	11 members, of whom two are women	11 members, of whom five are women	11 members, of whom four are women
Community Plan	Community Plan 2021-2025	Community Plan 2016-2020	Community Plan 2021-2025	Community Plan 2021-2025	Community Plan 2021-2025
Livelihood Activities	Farming (rice, taro, corn, beans, bananas, and cashew nuts), livestock (chicken and pigs), and forest products.				

4. Socioeconomic Context and Climate Vulnerability

Cambodia's GDP (US$29.8 billion, 2021) and per capita income (US$1,730, among the region's lowest) are concentrated in climate-sensitive sectors such as textiles, tourism, and agriculture, which increases the risk of GDP losses from climate change if adaptation is not scaled up.[40] (Section 2). Although poverty declined from 60% in 2000 to 13.5% in 2015, a significant proportion

[40] Department of Climate Change (2018). *Modelling of Climate Change Impacts on Growth*. Ministry of Environment, Kingdom of Cambodia. http://www.camclimate.org.kh/en/policies/ncsd-news/445-445.html

of the population[41] remains just above the poverty line. Under the 2022 revised threshold (US$2.70/day), 18% are classified as poor, with rural poverty (22.8%)[42] substantially higher than in urban areas (12.6%) and Phnom Penh (4.2%). Official unemployment is low (~2%), but this figure masks high levels of underemployment and informality. Vulnerable households, lacking savings, secure land tenure, or diversified income sources, are increasingly compelled to adopt negative coping strategies, including asset sales, reduced education spending, and distress migration.

Siem Reap Province's Human Development Index (HDI) is relatively low (0.499), reflecting persistent challenges in income, education, and health[43] (2022: 71% employed[44]in services/tourism, 27% in agriculture). The International Labour Organisation (ILO) cautions that heat stress and climate disruption may render extensive areas less productive or uninhabitable, potentially increasing migration and informal employment. [45]Angkor Archaeological Park and Phnom Kulen National Park contribute to tourism, biodiversity, and ecosystem services, offering opportunities for diversified livelihoods through ecotourism and climate-smart, value-added agriculture linked to tourism markets. However, enabling conditions are constrained by inadequate drainage and waste infrastructure, climate risks to visitor access and safety, and the degradation of forests, trails, and reservoirs, all of which undermine both economic opportunities and ecosystem integrity. Community-led adaptation initiatives continue to encounter systemic barriers, including weak institutional capacity, inadequate infrastructure, limited financial resources, and insufficient coordination in governance. Without strategic investment, these barriers are likely to exacerbate poverty and ecosystem degradation.

5. Gender and Social Inclusion Context

Cambodia ranked 98th of 156 countries in the 2022 Global Gender Gap Index (score 0.690)[46]. Health indicators have improved markedly: women's life expectancy now exceeds men's (72.3 vs 66.8 years)[47]; maternal mortality fell from 437 (2000) to 160 per 100,000 live births (2017)[4849], with 99% of births now attended by skilled health providers.[50] However, adolescent fertility is still at 46 births per 1,000 girls aged 15–19 (2020)[51]. Gender gaps in education have narrowed: primary enrolment rose from 82% (1997) to over 97% (2017/18)[52], and by 2021, 63% of girls completed lower secondary compared with52.5% of boys. Disparities last beyond that level, however: only 18.3% of girls complete secondary education[53] versus 31.7% of boys, and adult literacy remains lower among women (79.8% vs 88.4%, 2021)[54]. Women's economic participation has also improved (Cambodia rose from 77th to 61st of 146 countries on economic participation and opportunity, 2014–2022)[55], yet rural women remain disproportionately vulnerable to climate change impacts due to structural inequalities in resource access, power, and decision-making, and entrenched male-dominated norms.[56]

Women constitute 50.95% of Siem Reap's population (2019) [57] and are primarily responsible for caregiving, domestic tasks, water collection, small-scale farming, and livestock management, and make significant contributions to household income. Despite this extensive workload, social and economic barriers continue to restrict their autonomy. Gender analysis indicates that women in Siem Reap frequently manage livestock feeding and procurement, control livestock-related financial decisions, and participate equally with men in most other livestock-related activities. [58] Given women's substantial control over livestock, which is highly exposed to climate risks, livestock management is identified as a key pathway for enhancing women's climate resilience. Heat stress reduces feed intake and reproduction, flooding increases disease and grazing-land loss, and dry-season scarcity heightens the water-collection burden for women. The project addresses these challenges through Output 1.1 (gender-disaggregated livestock climate-exposure assessment) and an expanded Output 2.1 (climate-resilient livestock practices co-designed with women's groups to strengthen this female-led livelihood directly).

Gender disparities intensify during climate shocks[59]: men typically retain greater control over financial assets and mobility, facilitating alternative income or migration, while women prioritise family nutrition and health over their own, and pregnant, elderly, or caregiving women face elevated risks of malnutrition, anaemia, dysentery, infection, and childbirth complications.[60] These intersecting vulnerabilities underline the need to embed gender equality in adaptation planning through targeted investments in women's decision-making power, access to resources, and inclusive, climate-resilient infrastructure, livelihoods, and early warning systems, thereby directly informing Outputs 2.1, 2.5, and 2.7. Beyond gender, three structural disadvantages shape vulnerability in Cambodia: unequal early-warning access for less-literate or non-Khmer-speaking households;

[41] Embassy of the Republic of Belarus in the Socialist Republic of Vietnam (2022). Cambodian economy. https://vietnam.mfa.gov.by/en/exportby/camobz/cameco/
[42] Business (2022). Joblessness in Cambodia is expected to stay around 2% in 2023. https://www.khmertimeskh.com/501169894/joblessness-in-cambodia-to-stay-around-2-in-2023/
[43]https://www.kampongspeu.gov.kh/%E1%9E%80%E1%9F%92%E1%9E%9A%E1%9E%94%E1%9E%81%E1%9F%90%E1%9E%8E%E1%9F%92%E1%9E%8C%E1%9E%A2%E1%9E%97%E1%9E%B7%E1%9E%9C%E1%9E%8C%E1%9F%92%E1%9E%8D%E1%9E%93%E1%9F%8D%E1%9E%81%E1%9F%81%E1%9E%8F%E1%9F%92
[44] Seak, S., Khan, L., Spoann, V., Phat, C., Choeun, K., & Seak, S. (2023). Using the Socioeconomic Indicator Analysis to assess the Urban Vulnerability for Building Urban Resilience: A Case Study in Siem Reap City, Siem Reap Province. *Insight: Cambodia Journal of Basic and Applied Research*, *5*(2), 34-47.
[45] International Labour Organisation (2018). *The employment impact of climate change adaptation*. Input Document for the G20 Climate, Sustainability Working Group. ILO, Geneva.
[46] World Economic Forum (2022) Global Gender Gap Report 2022
[47] https://www.who.int/cambodia/news/detail/07-04-2023-cambodia-celebrates-significant-health-achievements-on-the-75th-anniversary-of-who
[48]https://genderdata.worldbank.org/countries/cambodia/#:~:text=In%20Cambodia%2C%20the%20labor%20force,labor%20force%20participation%20has%20decreased.
[49] UNDP (2022) Human Development Report 2021-22, p 293
[50] https://www.who.int/cambodia/news/detail/07-04-2023-cambodia-celebrates-significant-health-achievements-on-the-75th-anniversary-of-who
[51] https://genderdata.worldbank.org/countries/cambodia/
[52] https://www.unicef.org/cambodia/education
[53] https://genderdata.worldbank.org/countries/cambodia/
[54] UNDP 2022 Human Development Report 2021-2022
[55] https://genderdata.worldbank.org/countries/cambodia/
[56] PRB (2012). *Women more vulnerable than men to climate change*. https://www.prb.org/resources/women-more-vulnerable-than-men-to-climate-change/
[57] General Population Census 2019
[58] Detailed Gender Analysis (November 2022),
[59] PRB (2012). Women more vulnerable than men to climate change. https://www.prb.org/resources/women-more-vulnerable-than-men-to-climate-change/
[60] Algur, K. D., Patel, S. K., & Chauhan, S. (2021). The impact of drought on the health and livelihoods of women and children in India: A systematic review. Children and Youth Services Review, 122, 105909.

weak land tenure among poor, elderly, and female-headed households; and under-representation of women, youth, persons with disabilities, and ethnic minorities in governance.

6. Environmental Context and Impact of Climate Change

Cambodia faces escalating climate and environmental challenges, such as prolonged dry seasons, unpredictable rainfall, and rising temperatures. Deforestation and pollution exacerbate these issues. The frequency of forest fires, pest outbreaks, and biodiversity loss is increasing. Without coordinated adaptation measures, these challenges are likely to intensify poverty and food insecurity.

a. Land Degradation and Deforestation

Cambodia exhibits one of the highest rates of forest loss in the region. Figure 8 identifies areas experiencing the most severe land degradation and forest loss. Forests are essential for impoverished communities in Siem Reap; however, the upper Siem Reap River catchment lost approximately 36.6% of its forest cover between 1989 and 2019, primarily due to degradation and conversion to agriculture. These changes have altered hydrological patterns, resulting in increased runoff and sedimentation in downstream ponds and lakes. Consequently, there is greater sediment accumulation, reduced water storage capacity, and diminished fishery productivity.[61] Jacobson et al. (2022) associate forest loss with increased heat stress, elevated dust and respiratory issues due to fewer roadside and settlement trees, greater reliance on chemical fertilisers and pesticides, and a rise in waterborne diseases.[62] resulting from frequent storms.



Figure 8 *Land Degradation Hotspots in Cambodia*

b. Biodiversity Loss

Cambodia's flora and fauna face increasing threats from climate change. Alterations in temperature and rainfall patterns are modifying habitats and disrupting migration and breeding cycles. Endemic species, such as the clouded leopard and pangolin, are particularly vulnerable due to habitat loss and poaching.

c. Water Resource Challenges

The province depends on four primary water sources: the Siem Reap River, West Baray, Tonle Sap Lake, and groundwater. However, public water supply systems operate in only eight of the twelve districts. [63] Deforestation in Phnom Kulen National Park, Angkor's principal watershed, has altered dry-season water flows and increased erosion (FAO & ADB, 2019). Groundwater resources are being depleted, and the incidence of waterborne diseases is rising, posing threats to both food security and heritage sites (UNESCO, 2023). Traditional canals and reservoirs are increasingly inadequate for managing seasonal variability due to upstream deforestation and sediment accumulation (Live & Learn, 2023). More than 27,900 m³ of groundwater is extracted daily, predominantly by tourism enterprises, resulting in land subsidence and risks to Angkor monuments (Phnom Penh Post, 2019). The West Baray Reservoir now supplies over half of Siem Reap City's water, yet this remains insufficient (MoE, 2022). The project will incorporate local ecological knowledge, including water management, agricultural practices, and forest stewardship, into its adaptation strategies.

d. Economy

Cambodia's economy is heavily dependent on agriculture, tourism, construction, and garment manufacturing, yet it remains highly susceptible to climate change. Agriculture, which employs nearly 40% of the workforce, experiences unstable productivity due to unpredictable rainfall and water shortages. The tourism sector is similarly affected, with reduced visitor numbers and income resulting from extreme weather events, infrastructure damage, and ecosystem degradation. These challenges could result in losses of up to 10% of GDP by 2050[64] (Section 1), while heat stress further diminishes the productivity of outdoor labour. The pace of climate change now exceeds the adaptive capacity of rural farmers. Unpredictable rainfall and prolonged droughts are causing recurrent crop failures, and many farmers lack access to irrigation, drought-resistant seeds, or timely climate information. Consequently, households are incurring greater debt, withdrawing children from school, and reducing food consumption, all of which undermine their resilience.

e. Food Security Impacts

Climate variability increasingly exceeds rural farming systems' adaptive capacity: erratic rainfall and extended droughts drive recurrent crop failures, and many farmers lack irrigation, drought-resilient seeds, or climate information, driving negative coping strategies (indebtedness, school withdrawals, reduced food consumption) that erode household resilience.

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[61] Jacobson, C., Smith, J., Sou, S., Nielsen, C., & Hang, P. (2022). Effective Water Management for Landscape Management in the Siem Reap Catchment, Cambodia. *Maiko Nishi Suneetha M. Subramanian*, 129.]

[62] Ibid.

[63] Rashid, T. (2020). Local community and policymaker perspectives on sustainable livelihoods, tourism, environment and waste management in Siem Reap, Angkor, Cambodia. *International Journal of Asia-Pacific Studies*, *16*(1).

[64] Department of Climate Change (2018). *Modelling of Climate Change Impacts on Growth*. Ministry of Environment, Kingdom of Cambodia. http://www.camclimate.org.kh/en/policies/ncsd-news/445-445.html

f. Flooding, Heat Stress, and Public Health

Climate change is exacerbating public health risks through increased temperatures, more frequent flooding, and the expanded transmission of diseases such as malaria and dengue. These risks are particularly acute for older adults, children, outdoor workers, and individuals with pre-existing health conditions. Inadequate water and sanitation infrastructure further elevate the incidence of diarrheal and respiratory diseases. Mortality from heat among older populations is projected to rise significantly by 2080 if emissions remain high-emission scenario.[65] Additionally, climate-related displacement, crop failures, and employment disruptions are contributing to increased mental health stress, which frequently remains unaddressed.

g. Water Availability

Climate variability is rendering water availability increasingly unpredictable. Alternating periods of drought and intense rainfall strain ageing infrastructure, resulting in many rural areas experiencing both dry-season water shortages and wet-season flooding within a single year.[66] Inadequate irrigation systems further hinder agricultural adaptation. Damaged reservoirs and ineffective waste management have degraded water quality in the Siem Reap River and Tonle Sap, adversely affecting ecosystems and fish populations.[67]

h. Ecosystem and Livelihood Fragility

Natural ecosystems are increasingly fragile due to both climate change and anthropogenic pressures. Illegal logging, unsustainable extraction of non-timber forest products, and land conversion accelerate biodiversity loss and diminish the ecological services upon which rural households rely. Climate-related stress frequently compels families to exploit forest resources for coping, perpetuating vulnerability and impeding recovery in the absence of alternative income sources, early warning systems, and institutional support.[68,69] While ecotourism presents development opportunities, it is also threatened by degraded landscapes, biodiversity loss, and limited accessibility, all of which reduce destination attractiveness and negatively affect local incomes and employment. Without enhanced community adaptation, improved resource management, and ecosystem restoration,[70] climate impacts are likely to reverse development gains and heighten risks to biodiversity and livelihoods. Implementing nature-based solutions, climate-resilient infrastructure, and inclusive livelihood strategies is essential to safeguard these systems.

7. Lessons Learned from Past Projects

This proposal builds upon lessons from two previous Adaptation Fund–supported climate resilience initiatives in Cambodia. **The** Enhancing Climate Change Resilience of Rural Communities Living in Protected Areas project (UNEP/MoE, 2012–2021) demonstrated that outcomes were most effective when infrastructure investment was combined with grassroots, participatory risk planning and gender-sensitive, pro-poor targeting. Its evaluation recommended a more decentralised structure and value-chain-oriented livelihoods training. **The Climate Change Adaptation through Small-Scale and Protective Infrastructure Interventions project** (UN-Habitat/MoE, 2021–2025) enhanced resilience through community capacity-building and small-scale infrastructure investments, which accounted for 68.6% of its budget. Its evaluation recommended using SMART indicators and Training-of-Trainers approaches. The current project incorporates these lessons in the three target districts. In alignment with the Adaptation Fund's Locally Led Adaptation (LLA) approach, execution authority is transferred directly to subnational authorities and Forest Protection Community Committees, reflecting the UNEP project's decentralisation recommendation. SMART indicators are embedded in the results framework, and Training-of-Trainers is operationalised under Component 1, enabling trained individuals to disseminate standardised tools within their communities with ongoing mentoring to promote ownership and sustainability. The project is structured around Locally Led Adaptation, ensuring that communities are central to decision-making, planning is bottom-up, and local knowledge is integrated with scientific evidence to maintain local relevance and sustainability.

8. Target Area Selection Rationale

Siem Reap Province represents a high-priority adaptation landscape where climate risk, ecosystem fragility, and livelihood dependence intersect. It is among Cambodia's most climate-exposed regions and includes the Angkor Archaeological Park. Krong Siem Reap, Svay Leu, and Banteay Srei were selected based on climate risk exposure, socio-economic vulnerability, ecological significance for watershed and forest conservation, and the potential for locally led adaptation. These districts receive limited, dedicated financing for community-led adaptation, making Adaptation Fund support essential for piloting solutions not yet systematically financed domestically. As Cambodia's most internationally recognised heritage landscape, this site has developed successful models with significant potential for nationwide replication. Within these districts, the project targets five poor settlements, selected for high poverty incidence using IDPoor/Equity Card data, limited access to infrastructure, and high climate-hazard exposure, as well as five forest-protection communities, defined by their resource-management mandate. The project ensures that the priorities of less powerful groups, including women, youth, older persons, persons with disabilities, and ethnic minorities, are actively incorporated, with a focus on 'vulnerable households' facing the highest climate risk and lowest adaptive capacity.

9. Systemic Barriers to Adaptation

Four system-wide barriers, rather than a lack of awareness, explain why climate risk in Siem Reap persists.

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[65] World Health Organisation and United Nations Framework Convention on Climate Change (2015). Climate Change Health Country Profile – 2015, Cambodia. World Health Organisation https://apps.who.int/iris/rest/bitstreams/1064308/retrieve

[66] IPCC. (2022). *Summary for Policymakers: Asia*.

[67] Rashid, T. (2020). Local community and policymaker perspectives on sustainable livelihood tourism, environment and waste management in Siem Reap, Angkor, Cambodia. *International Journal of Asia-Pacific Studies*, *16*(1).

[68] ICEM. (2003). *Field Study Cambodia: Biodiversity and Protected Areas*.

[69] Adaptation Fund. (2018). *Mid-Term Review: Enhancing Climate Resilience of Rural Communities in Protected Areas*.

[70] World Bank & ADB. (2021). Climate Risk Country Profile: Cambodia. https://climateknowledgeportal.worldbank.org

1. **Institutional and planning barriers.** Commune Investment Plans (CIPs), District Development Plans (DDPs), and sectoral plans do not incorporate climate risk, integrated adaptation solutions or nature-based solutions. Additionally, officials often lack the capacity to utilise climate data and lead locally led decision-making processes. Component 1 addresses these gaps by embedding solutions into CAPs, CIPs, and DDPs.
2. **Infrastructural and ecosystem barriers.** Degraded watersheds, inadequate drainage, and poorly maintained reservoirs increase community vulnerability to flooding, drought, and heat. Component 2 mitigates these risks through ecosystem restoration and resilient infrastructure.
3. **Financial and institutional capacity barriers.** Communities possess limited experience in managing adaptation finance, and formal funding channels seldom reach the community level with sufficient flexibility. Community Investment Agreements (CIAs) under Components 1 and 2 devolve fund management to Community Development Committees (CDCs), with fiduciary capacity-building provided under Output 1.2.
4. **Knowledge and information barriers.** Limited access to localised climate information and low literacy levels constrain effective adaptation decisions. Component 3, together with Output 2.7, addresses these challenges by developing knowledge products and early warning systems. Each Component corresponds to a Project Objective; therefore, each barrier-to-Component link also represents a barrier-to-Objective link.

B. Project/Programme Objectives

Project Goal: To enhance sustainable livelihoods and climate resilience among communities in the heritage-protected areas of Siem Reap Province through community-led, integrated adaptation that combines nature-based solutions, climate-resilient infrastructure, and diversified livelihoods, underpinned by strengthened local capacity and improved ecosystem stewardship.

Objectives: By 2031, communities in the heritage-protected areas of Siem Reap Province have strengthened climate resilience through (i) more diversified climate-resilient livelihoods, (ii) climate-resilient small-scale infrastructure and ecosystem asset improvements, and (iii) the capacity-building of local authorities and community groups to undertake risk-informed planning, resource management, and ecosystem stewardship.

This objective will be achieved through three main components:
1. To strengthen the development and investment planning processes at the Commune/Sangkat and district/city levels by embedding climate risk, integrated adaptation solutions, and locally led decision-making within local development planning and capacity-building.
2. To develop and pilot prioritised climate-resilient infrastructure, ecosystem-based, and livelihood investments within Commune/Sangkat and district/city development plans.
3. To support local stakeholders in replicating the project's best practices through policy recommendations and knowledge-sharing initiatives.

Achieving these objectives requires balancing three often-competing priorities in the Siem Reap landscape: tourism development, heritage conservation, and climate resilience. The ecological systems and livelihoods that support tourism are increasingly threatened by climate change. As a result, tourism-related interventions are designed as adaptation measures. Climate risks such as extreme heat, erosion, flooding, drought, and ecological degradation limit visitor access, damage tourism infrastructure, and jeopardise local revenue. In response, nature-based tourism investments, including watershed restoration, eco-trail stabilisation, climate-resilient drainage, wastewater treatment, and ecosystem rehabilitation, reduce climate vulnerability and enhance resilience while diversifying household income. Heritage conservation progresses as a co-benefit of climate-resilient resource management. Coordination through APSARA Authority and local administrations ensures that adaptation investments align with heritage-protection mandates across the wider Angkor landscape.

A significant portion of the project budget (66.97% of total budget) is allocated to Component 2, which focuses on climate-resilient infrastructure and livelihood promotion. This allocation aligns with the needs expressed by local communities, municipal administrations, and national authorities. Component 1 provides targeted capacity building to ensure that these physical investments are sustainably managed, maintained, and leveraged over time. The community-centred design is intentional and systematic. Each component, financing modality, and decision-making structure has been developed to reflect the principles of Locally Led Adaptation. Table 3 summarises how the project addresses each of the eight LLA Principles, translating identified governance gaps into concrete mechanisms for devolving authority, resources, and accountability to the local level.

Table 3 *Alignment with the 8 Principles of Locally Led Adaptation*

LLA Principle	How the Project Responds
1. Devolving decision-making to the lowest appropriate level	Community Development Councils (CDCs) manage funds and procurement through Community Implementation Agreements (CIAs). Primary Groups propose actions; Commune/Sangkat Councils validate without overriding community priorities. 40–60% of Component 2 financing flows directly to community-level institutions.
2. Addressing structural inequalities faced by women, youth, and marginalized groups	A minimum of **50% women in core community decision-making bodies (CDCs and Primary Groups) and at least 30% women in broader consultative, governance, and tourism activities**, alongside a minimum of 20% youth participation. Gender-responsive design is embedded across Outputs 2.1, 2.5, and 2.7. Persons with disabilities and ethnic minorities are explicitly included in beneficiary targeting.

3. Providing patient and predictable funding that can be accessed more easily	Funds are disbursed in tranches linked to verified milestones through CIAs, giving communities predictable access to resources. The CIA mechanism reduces administrative barriers to direct community finance access.
4. Investing in local capabilities to leave an institutional legacy	A Training-of-Trainers approach under Output 1.2 builds a cadre of local resource persons. Capacity-building covers financial management, procurement, ecosystem monitoring, and early warning system operation to ensure sustainability beyond the project cycle.
5. Building a robust understanding of climate risk and uncertainty	Participatory socio-economic and climate vulnerability assessments are conducted across all target communities (Output 1.1). Climate risk profiles and green tourism opportunity maps are developed to guide local investment decisions (Output 1.2).
6. Flexible programming and learning	CDC-led review meetings enable iterative revision of Community Action Plans. Community monitoring and social audits feed back into adaptive planning. Participatory evaluation allows reprioritisation of investments based on evolving local needs.
7. Ensuring transparency and accountability	A community-based Grievance Redress Mechanism (GRM) is embedded in implementation. Social audits, public disclosure of beneficiary selection, and independent verification of milestones ensure downward accountability to local stakeholders.
8. Collaborative action and investment	Multi-tier governance links community institutions, Commune/Sangkat Councils, district authorities, and national ministries. MoE provides policy alignment; UN-Habitat provides technical oversight; communities lead implementation.

C. Project/Programme Components and Financing

Table 4 *Summary of Project/Programme Components, Outputs, Outcomes, and Budget*

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
Component 1: Strengthening the development and investment planning processes at the Commune/Sangkat and district/city levels by embedding climate risk, integrated adaptation solutions, and locally led decision-making into local development planning and capacity-building.	**Output 1.1.** Participatory socio-economic and climate vulnerability assessments conducted across poor settlements and forest protection communities in three districts, including analysis of traffic safety and disaster risks, tourism-related environmental pressures and NbS potential.	**Outcome 1:** Sub-national development and investment planning processes (Commune/Sangkat and District levels) are climate-informed and demonstrate enhanced institutional capacity to integrate nature-based solutions and green tourism into adaptive governance frameworks.	96,000
	Output 1.2 Capacity of sub-national authorities and community groups strengthened through targeted training on climate-resilient urban and rural planning, disaster preparedness, green tourism, and climate-smart agriculture, including exposure visits to best practice sites.		116,000
	Output 1.3 Community groups and local authorities supported in preparing and formalizing Community Action Plans, climate risk profiles, and green and safe tourism opportunity maps, through inclusive, participatory processes.		70,000
	Output 1.4 Community groups and local authorities supported in preparing and formalizing Community Implementation Agreements that prioritize, implement, and monitor locally led adaptation actions identified in the Community Action Plan, through inclusive, participatory processes.		110,000
Sub-total (1)			392,000
Component **2:** Developing and piloting prioritized climate-resilient infrastructure, ecosystem-based, and livelihood investments within Commune/Sangkat and district/city development plans.	**Output 2.1** Climate-smart agriculture and value-addition practices piloted in at least five forest protection communities, supported by market analysis and training.	**Outcome 2:** Vulnerable households and communities benefit from improved livelihoods and enhanced resilience through the implementation of nature-based, small-scale infrastructure and adaptive land-use practices aligned with sustainable tourism and agriculture.	541,000
	Output 2.2 A regional nursery is fully operationalized to support community-based reforestation and assisted natural regeneration through training, seed propagation, and strategic restoration.		250,000
	Output 2.3 Ecological and tourism value of Banteay Srei's reservoir site enhanced through trail rehabilitation, removal of invasive species, and installation of visitor amenities with small-scale solar lanterns at houses and public spaces for safety and minimum economic burdens.		450,000
	Output 2.4 Water retention and climate buffer capacity increased in Svay Leu District through sediment clearance, water gate construction, and embankment stabilization.		699,000
	Output 2.5 Eco-villages established or upgraded using circular resource systems, including renewable energy, food forests, wastewater treatment, and climate-resilient homestays to support sustainable and safe tourism.		560,000
	Output 2.6 Flood-resilient community nature-based infrastructure solutions, including sewerage and eco-wastewater systems, constructed or improved in vulnerable settlements in Sangkat Nokor Thom.		510,000

	Output 2.7 Community-based Early Warning Systems for floods, droughts, lightning installed and operationalized in high-risk areas, with community training and local monitoring.		150,000
	Output 2.8 Solid waste management capacities improved in Krong Siem Reap, Banteay Srei, and Svay Leu Districts through awareness training and installation of waste segregation, composting, and recycling systems.		188,000
Sub-total (2)			3,348,000
Component 3: Supporting the local stakeholders in replicating the project's best practices through policy recommendations and knowledge sharing initiatives.	**Output 3.1** Coordination meetings, study visits, and capacity-sharing workshops are conducted among implementing partners, local tourism businesses, cultural authorities, and community stakeholders.	**Outcome 3:** Proven models for community-led, integrated climate adaptation, spanning nature-based solutions, resilient infrastructure, and diversified livelihoods, are documented, disseminated, and adopted for replication and policy integration at sub-national and national levels, including within Siem Reap's sustainable green tourism economy.	205,000
	Output 3.2 Policy briefs and recommendations promoting sustainable tourism are developed and submitted to relevant sub-national and national authorities.		156,000
	Output 3.3 Knowledge products are produced and disseminated, documenting good practices, lessons learned, and replication strategies.		107,000
Sub-total (3)			468,000
Components Total (A)			**4,208,000**
6. Project/Programme Execution cost (9.5 per cent)			399,760
7. Total Project/Programme Cost			4,607,760
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			391,660
Amount of Financing Requested			**4,999,420**

Table 5 below makes explicit the activity-to-output-to-objective chain for each output in Table 4, drawing on the activities already described in each output's narrative. Because Objectives 1, 2, and 3 correspond directly to Components 1, 2, and 3, this table confirms all output's activities are consistent with its listed output and its component's objective; no output's activities are disconnected from either.

Table 5 *Activity-to-output-to-objective mapping*

Output	Key activities delivering the output	Contributing objective
1.1 Vulnerability assessments	Participatory socio-economic and climate vulnerability assessments; documentation of observed climate trends; traffic-safety, disaster-risk, and NbS-potential analysis	Objective 1
1.2 Capacity-building	Training-of-trainers on climate-resilient planning, disaster preparedness, green tourism, and climate-smart agriculture; People's Process facilitation training; fiduciary, procurement, and O&M training	Objective 1
1.3 Community Action Plans, risk profiles, and tourism maps	Community consultations, prioritisation, costing and budgeting of Community Action Plans; climate risk profiling; green/safe tourism opportunity mapping; community-defined subproject scoring	Objective 1
1.4 Community Implementation Agreements	Once a CAP is endorsed, CIA preparation and formalisation, tranche-based fund disbursement, community-led procurement, labour mobilisation, financial record-keeping, and social audits	Objective 1
2.1 Climate-smart agriculture	Farmer training (1,242 farmers) in agroecological practices (intercropping, composting, drip/treadle-pump irrigation); 10 demonstration plots incorporating soil-conservation practices (contour farming, cover cropping, reduced tillage); at least one buyer/market linkages per community; soil-conservation and climate-resilient livestock measures.	Objective 2
2.2 Nursery and reforestation	Regional nursery operation (at least 50,000 seedlings/year); native-species propagation; community-based reforestation and assisted natural regeneration (minimum 150 ha)	Objective 2

2.3 Banteay Srei reservoir/eco-trail	Sediment removal, invasive-species control, slope stabilisation, ~2.5 km eco-trail rehabilitation, solar lighting and visitor amenities	Objective 2
2.4 Svay Leu reservoir rehabilitation	Sediment clearance, vegetation management, embankment stabilisation, water-gate repair across ~57 ha	Objective 2
2.5 Eco-villages	Renewable energy and passive-cooling installation; food-forest and wastewater-reuse systems; composting/biogas; local low-carbon materials; homestay upgrades Composting and biogas within these systems close local nutrient loops, reducing dependence on synthetic fertilisers and the land degradation this drives, while treated wastewater reuse for food forests eases dry-season irrigation demand and builds resilience to the rainfall decline projected for Siem Reap.	Objective 2
2.6 Sewerage / eco-wastewater	Constructed wetlands and vegetated buffer/infiltration zones combined with engineered sewerage in Sangkat Nokor Thom	Objective 2
2.7 Early warning systems	Installation of rain gauges, river-level sensors, and lightning detectors; community alert protocol; local monitor training	Objective 2
2.8 Solid waste management	Waste segregation, composting, and recycling system installation; climate-environment awareness training By keeping solid waste out of stormwater drains, this reduces the blocked-drainage flooding already documented in Krong Siem Reap, and diverting organic waste from open dumping lowers the waterborne-disease and surface-water contamination risks that intensify during the wet season.	Objective 2
3.1 Coordination and capacity-sharing	Coordination meetings, study visits, and capacity-sharing workshops among implementing partners, tourism businesses, cultural authorities, and communities	Objective 3
3.2 Policy briefs	Development and submission of sustainable-tourism policy briefs and recommendations to sub-national and national authorities	Objective 3
3.3 Knowledge products	Production and dissemination of knowledge products documenting good practices, lessons learned, and replication strategies	Objective 3

D. Theory of Change Narrative

Pathway steps

1. Climate hazards, including droughts, flooding, and heatwaves, increase the vulnerability of Heritage Protected Areas in Siem Reap Province. This heightened vulnerability results from climate-sensitive livelihoods, limited sub-national planning capacity, degraded watersheds, inadequate drainage, and persistent gender and social inequalities.
2. Barriers impeding climate adaptation by sub-national stakeholders include insufficient institutional planning capacity, inadequate or damaged infrastructure and ecosystems, limited financial mobilisation and allocations, and knowledge or information gaps.
3. Adaptation Fund financing will deliver technical assistance and support project activities through the People's Process, ensuring effective participation and engagement of beneficiaries in both implementation and monitoring.
4. Participatory project implementation will strengthen the capacity of Commune/Sangkat and district/city stakeholders in climate-informed planning (Component 1), enhance climate-resilient infrastructure, ecosystem restoration, and diversified livelihoods in heritage-protected areas (Component 2), and generate knowledge products and policy integration (Component 3).
5. The outcomes of each output include strengthened climate-informed sub-national planning and institutional capacity (Outcome 1), improved climate-smart livelihoods and resilience in target areas (Component 2), and the promotion of adaptation model replication and policy recommendations.
6. These outcomes will enable communities in heritage-protected areas of Siem Reap Province to achieve durable, climate-resilient livelihoods, infrastructure, and governance.

Component 1 and Component 2 are closely linked. The priority sites and interventions in Table 4 come from early screening and consultations during project preparation. As the project moves forward, Component 1 finalizes, sequences, and allocates resources for each investment. **Output 1.1** checks site boundaries, targeting, and technical details at the community level. **Output 1.2** builds the technical and financial skills communities need before contracts begin. **Output 1.3** turns these findings into detailed and prioritized Community Action Plans (CAPs), which set the order of investments for each community. **Output 1.4** changes each CAP item into a Community Implementation Agreement (CIA), giving implementation authority and funding to the Community Development Committee. Component 2 funds are only released after a CAP is approved and a CIA is signed. The Community Development Committee leads review meetings and social audits to give feedback on progress. This feedback helps update CAPs and, if needed, CDPs, CIPs, or DDPs under Output 1.3. This approach makes sure that lessons from Component 2 help improve planning in Component 1, so the two components work together instead of separately.

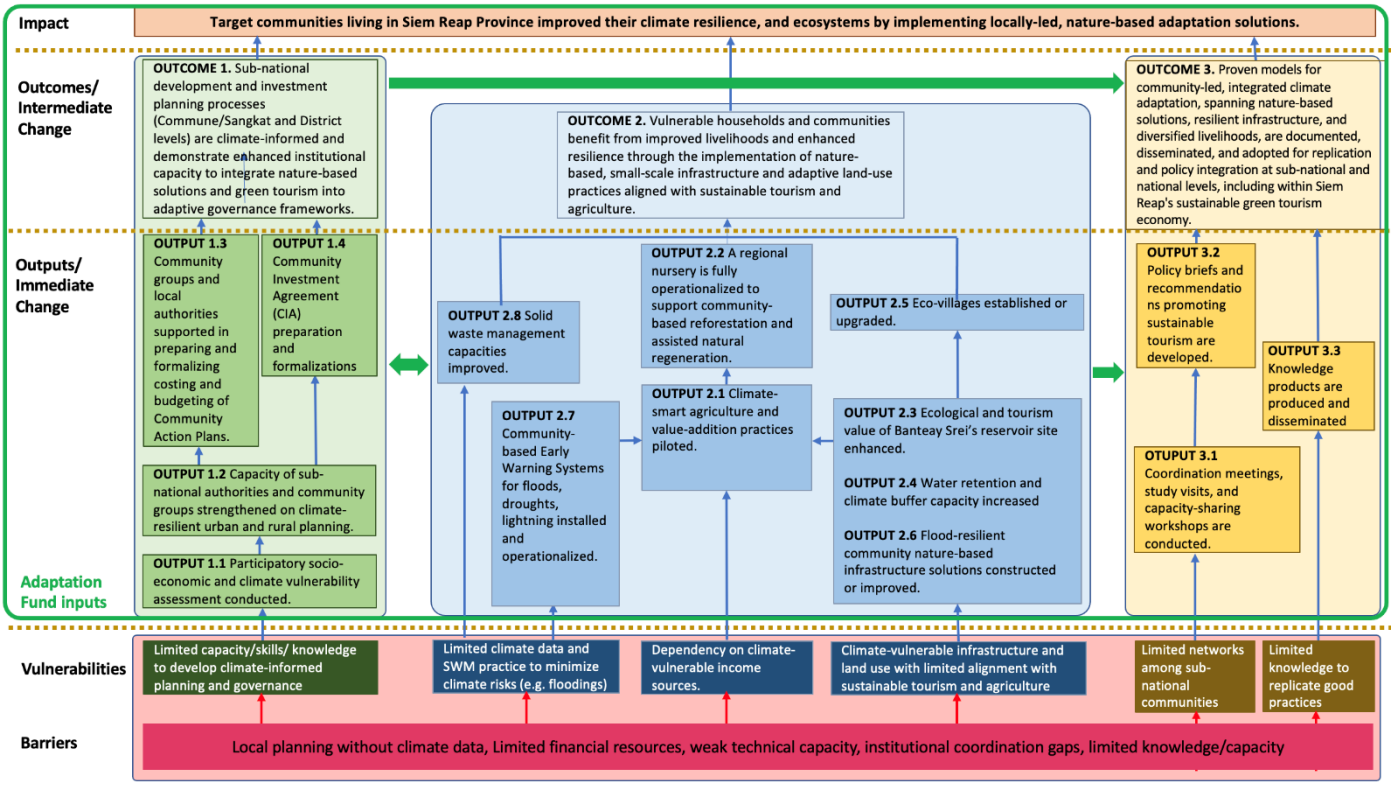


Figure 9. *Theory of Change pathway diagram: Barriers/Vulnerabilities → Adaptation Fund inputs → Outputs → Outcomes → Impact, showing the outputs contributing to each outcome.*

E. Key assumptions underlying this pathway

1. Sub-national authorities that acquire planning capacity will maintain sufficient institutional continuity, including staff retention and budget authority, to apply these capacities beyond the project period.
2. Communities empowered through Community Implementation Agreements (CIAs) will exercise fund-management responsibility without elite capture, contingent upon the project's safeguards framework.
3. Restored ecosystems and constructed infrastructure will function as designed under both current and projected climatic scenarios.
4. Sub-national and national institutions will possess sufficient absorptive capacity and policy interest to integrate documented lessons into Commune Development Plans (CDPs), Commune Investment Plans (CIPs), District Development Plans (DDPs), and national frameworks.
5. Co-financing and government counterpart engagement will remain available to sustain institutional functions after Adaptation Fund financing concludes.

If sub-national institutions strengthen climate-risk-informed planning capacity through targeted training, updated climate information, and locally grounded vulnerability assessments, **then** they will systematically embed climate risk, integrated adaptation solutions, and locally led decision-making into official development and investment plans. This integration will enhance institutional decision-making under climate uncertainty, improve inter-agency coordination, and increase preparedness for heatwaves, droughts, floods, and ecosystem degradation. The project prioritises bottom-up planning, enabling communities to define risks and guide local investment choices.

If vulnerable communities, including poor farmers, women-headed households, youth, and marginalised groups, participate in the identification, prioritisation, and implementation of adaptation actions, with direct technical and financial support through CAPs and CIAs for nature-based solutions infrastructure, climate-smart agriculture, water-resilience measures, and green-tourism livelihoods, **then** households will reduce exposure to climate hazards, decrease sensitivity to climate-induced income shocks, and increase adaptive capacity through diversified, resilient livelihoods. These changes will enhance income stability, food and water security, and overall household resilience.

If community-led adaptation knowledge, gender-responsive strategies, and locally tested nature-based solutions models are documented, validated, and disseminated, and if sub-national and national stakeholders engage in peer learning and policy integration, **then** evidence-based approaches will be replicated and scaled through formal planning, budgeting, and regulatory systems. This process will reduce the risk of maladaptation and institutionalise locally led climate-resilience practices across jurisdictions.

Therefore, communities in the heritage-protected landscapes of Siem Reap Province will transition toward climate-resilient development pathways that are robust under current and projected climatic scenarios. This transition will deliver measurable reductions in climate vulnerability, including lower disaster-related livelihood losses, improved water security, reduced flood exposure, strengthened ecosystem buffering, and more stable incomes. Local authorities and community institutions will demonstrate sustained improvements in risk-informed planning, inclusive governance, and adaptive capacity, ensuring that locally led nature-based adaptation remains durable and scalable beyond the project lifecycle.

E. Projected Calendar

Table 6 *Project Milestones and Timeline*

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2027
Mid-term Review (if planned)	May 2029
Project/Programme Closing	May 2031
Terminal Evaluation	December 2031

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project components, focusing on the concrete adaptation activities of the project, and contribution to climate resilience

The project targets the poorest and most climate-vulnerable populations in Siem Reap's heritage-protected areas through a community-driven, multi-level decision process. Primary Groups will propose actions, CDCs will prioritise them, and both CDCs and Commune/Sangkat Councils will endorse the Community Action Plans (CAPs). Equitable participation will be ensured by minimum thresholds (50% women, 20% youth), quorum-based decisions, and targeted measures such as women-only consultations, accessible venues and times, disability support, and language facilitation. These steps will ensure disadvantaged groups have a meaningful role in decision-making (LLA Principle 2). In line with LLA Principles 1 and 8, Community Implementation Agreements (CIAs) will transfer decision-making and financing to the local level. Funds will flow from the Implementing Entity to the Executing Entity, then to CDC-managed accounts, with 40–60% of Component 2 financing going directly to community institutions based on milestones. CDCs will manage procurement, labour, and financial records in accordance with approved CAPs and will be supported by fiduciary procedures, independent verification, public disclosure, and community-led social audits. Subproject selection will follow transparent, community-defined criteria (LLA Principle 7), including climate risk reduction, beneficiary numbers, cost-effectiveness, sustainability, and social inclusion, all of which will be validated in open, publicly disclosed community meetings.

To build capacity for direct fund management, each CDC must complete a documented capacity and compliance process before receiving funds. As standing sub-committees of the Commune/Sangkat Council under Cambodia's decentralisation framework, CDCs do not require separate NGO registration. Unregistered Forest Protection Committees will be formally registered under the Community Forestry Sub-Decree (2003). Each CDC must open a dual-signatory account with at least one woman signatory before the first disbursement and pass an independent assessment of fiduciary training under Output 1.2, covering bookkeeping, procurement, reporting, and CIA compliance. CDCs that have not yet met these requirements will implement their first subproject with support from the Executing Entity. Risk is further mitigated through milestone-based disbursement, mandatory quarterly financial reporting, unannounced spot-check audits on at least 20% of CDCs annually, and the social audits and disclosures described above.

Clarifying decision-making authority: The following table (Table 7) outlines which decisions are delegated to community groups and which remain with Commune/Sangkat Councils, the Ministry of Environment (Executing Entity), and UN-Habitat (Implementing Entity) across key project functions. These functions include sub-project selection, intervention design, procurement, budgeting and reallocations, fund disbursement, implementation, monitoring and reporting, and CAP revision. Where an actor's role is limited to validation or oversight rather than initiation, this is explicitly stated.

Table 7 Delineating decision-making authority across the project cycle.

Function	Community Groups (Primary Groups / CDCs)	Commune/Sangkat Council	MoE (EE)	UN-Habitat (IE)
Sub-project / site selection	Propose and prioritize using community-defined scoring criteria	Validate consistency with CIP/DDP; cannot override community priorities	Screen for technical and AF-eligibility criteria	
Intervention design	Co-design with technical support; confirm siting and design choices	—	Provide engineering/technical design and climate-scenario review (Outputs 2.3–2.6)	
Procurement	CDCs execute procurement for CIA-funded activities under dual-signatory control	Compliance oversight for CAP-linked works	Fiduciary oversight; direct procurement for works above CDC capacity thresholds	
Budgeting & reallocations	Propose reallocations within approved CAP/CIA envelope	Approve reallocations affecting CIP alignment	Final approval against AF budget lines and results framework	
Fund disbursement	Manage CDC bank account; verify milestones at community level	—	Release tranches: IE → EE → CDC accounts, against verified milestones	

Implementation	Lead on-the-ground delivery (labour, local materials, site oversight)	—	Technical supervision and quality assurance	
Monitoring & reporting	Community-based monitoring; quarterly financial and progress reports; social audits	Endorse community reports	Receives aggregated national reporting on climate finance	Consolidate M&E; report to the Adaptation Fund Board
CAP revision / adaptive learning	Initiate and lead revision based on implementation experience	Endorse revised CAP	Technical review of revisions	
National strategic oversight	—	—	Strategic oversight; confirms alignment with national climate strategy; represented on the Project Steering Committee	Secretariat function to the Project Steering Committee; day-to-day project execution

Ensuring sustained local decision-making: CDCs will function as standing council sub-committees, not temporary project bodies, so their CAP and CIA authority will continue within commune governance after the project concludes. Community-defined selection criteria and the CAP revision cycle will become standard commune procedures, informing annual CIP updates beyond 2031. Community authority will cover all three components: prioritisation and design input in Component 1, fund management and implementation oversight in Component 2 (via CIAs), and validation of lessons in Component 3.
Communities as decision-makers: Three safeguards will ensure this principle**.** First, Component 2 pilots will be based on community-led assessments from Component 1 (Outputs 1.1–1.2), not a pre-set menu, even when sites such as the Banteay Srei reservoir are identified at the concept stage. Second, community authority will include technical choices within defined parameters, such as eco-village layout, species selection, and market linkages. Third, CDC-led Component 3 review meetings will allow communities to revise their own CAPs, including reprioritising activities that have not yet been implemented.
Resolving disputes within community structures: The community Grievance Redress Mechanism (GRM) will address safeguard complaints, while a simplified process will manage disagreements over prioritisation, beneficiary selection, or implementation. Disputes will be first raised within the originating Primary Group and discussed using community-defined scoring criteria (Output 1.3). If unresolved, disputes will be reviewed by the CDC at an open meeting, with decisions recorded and publicly disclosed. Disputes not resolved at the CDC level, or those involving allegations of elite capture or misconduct, will be escalated to the Commune/Sangkat Council and, if necessary, to the district-level formal GRM process.

The project will integrate institutional measures under Components 1 and 3 with investment measures under Component 2, including climate-resilient infrastructure, ecosystem-based solutions, reforestation, agroforestry, watershed rehabilitation, and wetland restoration. Local knowledge will be combined with technical expertise. A community-based Grievance Redress Mechanism will address issues related to beneficiary selection, financial management, and delivery at the community level, with escalation to Commune/Sangkat and district authorities as needed.

Component 1 addresses a key gap: Cambodia's Commune Investment Plans and sectoral plans often overlook climate risk, gender equality, and nature-based solutions. Through the People's Process and Community Action Planning, communities will assess risks, analyse vulnerabilities, and prioritise actions based on feasibility and relevance. CAPs will be aligned with CIPs and DDPs to ensure community priorities are reflected in official plans and budgets (LLA Principle 4). The Ministry of Environment will provide policy alignment, strategic guidance, and safeguards compliance. The Project Steering Committee will ensure cross-ministry coordination and compliance with national climate policy, and will approve and forward CAPs and CIAs to UN-Habitat through this structure.
Institutionalising CIP and DDP updates: Integrating CAPs represents a lasting institutional change. Once a Commune/Sangkat Council endorses a CAP, its priority actions are included in the next annual CIP and, where relevant, the DDP update cycle through existing national procedures. Corresponding budget lines are proposed and tracked by the Council beyond the project period. CAP-driven priorities continue to receive funding through the regular planning cycle after project closure, independent of ongoing AF financing.
Outcome 1, climate-informed sub-national planning, is achieved through four outputs, each delivered by specific activities described below.
Output 1.1 (vulnerability assessments) will be conducted in five poor settlements and five forest protection communities across three districts. Given Siem Reap's heritage and tourism significance, assessments will also address traffic safety, disaster risk, tourism-related environmental pressures, and the potential for nature-based solutions. Findings will be translated into actionable risk information to build community ownership of planning (LLA Principle 5).
Output 1.2 (capacity-building) will use a training-of-trainers approach and the People's Process to develop local resource persons and strengthen the capacity of forest-protection communities to engage in participatory conservation. The program will address capacity gaps in financial management, procurement, and technical implementation, enabling CDCs to progressively manage funds and meet fiduciary responsibilities. Additional training will cover operations and maintenance, ecosystem monitoring, and early warning systems (LLA Principle 3).
Output 1.3 (Community Action Plans, climate risk profiles, and tourism opportunity maps) will integrate adaptation priorities into climate-informed CAPs through community consultation, costed planning, and community-defined scoring criteria. This output will be complete once a CAP is formally endorsed by the community assembly and Commune/Sangkat Council (LLA Principles 5 and 6).

Output 1.4 (Community Implementation Agreements) will prioritise, implement, and monitor the endorsed CAP's actions. Funds will be disbursed in tranches against verified progress, with communities handling procurement, labour, records, and reporting; CDCs overseeing allocation; and Commune/Sangkat authorities validating without overriding community priorities. Communities will certify subproject completion before the final tranche release (LLA Principle 3). Distinguishing CAP development (Output 1.3) from CIA preparation (Output 1.4) as separate, sequential outputs gives planning and fund management/implementation each a clear, distinct scope, rather than merging them into a single output.

Sequencing and linkage between Component 1 and Component 2: Component 2 investments are direct outputs of Component 1 and are not selected independently. Output 1.1's vulnerability assessments and climate risk profiles will rank hazards by site. Output 1.3's Community Action Plans and tourism opportunity maps will translate these rankings into a prioritised, community-endorsed candidate list. Specific Component 2 pilots (Outputs 2.1–2.8) will be selected from this list, not from a pre-determined menu. Output 1.4 Community Implementation Agreements will formalise the transfer of implementation authority and financing for selected investments to CDCs. This process will be iterative. CDCs will lead review meetings and social audits (Component 3) feed lessons from Component 2 back into CAP revisions (Output 1.3), CIA adjustments (Output 1.4), and training priorities (Output 1.2). If a Component 2 pilot is identified at the concept stage (such as the Banteay Srei reservoir or Svay Leu water infrastructure), it will reflect sites where climate exposure and community demand were evident during preparation. Final site-level design and prioritisation are still confirmed through the Output 1.1–1.4 process in year one.

Component 2 provides targeted, on-the-ground adaptation investments that reduce climate risk for vulnerable households through ecosystem restoration and nature-based infrastructure, including native reforestation, slope stabilisation, sediment retention, and watershed rehabilitation. These efforts will be combined with climate-resilient reservoir, eco-trail, and eco-village upgrades, which strengthen ecological buffers and water regulation while generating tourism-linked livelihood benefits. Low-technology, labour-intensive methods will be prioritised to encourage local participation. CDCs will manage funds through CIAs under the People's Process, with communities involved in site selection, feasibility, construction oversight, and maintenance. Social audits, public disclosure, and oversight by Commune/Sangkat and the Executing Entity will ensure fiduciary compliance. Inclusive representation, quorum-based decision-making, and the GRM will help prevent elite capture and exclusion.

Outcome 2 will deliver measurable resilience gains for climate-vulnerable households by improving ecosystem services, water security, diversified livelihoods, and reducing hazard exposure. This will be achieved by combining nature-based infrastructure with climate-resilient livelihood practices and strengthening sustainable tourism and climate-smart agriculture.

Output 2.1 (climate-smart agriculture) will engage forest-protection communities and established, locally legitimate resource management institutions, ensuring that market-oriented activities support, rather than compete with, conservation mandates. At least 1,242 farmers (at least 50% women) will be trained in water-efficient agroecological practices, including intercropping, composting, and drip or treadle-pump irrigation. Demonstration plots will showcase integrated, resilient farming and small-scale processing, with crop selection guided by market analysis. Lead farmers will facilitate peer-to-peer learning.

Strengthening market linkages, land-degradation response, and livestock resilience: To ensure that training leads to sustainable income, buyer relationships with hotels, restaurants, and Siem Reap markets will be mapped for each priority product during planning for Output 1.1/1.2. Each community will establish at least one formal producer-buyer or cooperative marketing arrangement. Demonstration plots will include soil conservation practices such as contour farming, cover cropping, and reduced tillage, with 10 initial plots informing training for all 1,242 farmers. Climate-resilient livestock management, including heat-adapted shelter, improved water access, and disease early-warning (linked to Output 2.7), will directly address the climate and gender vulnerabilities identified in Section 5.

Output 2.2 (regional nursery) will enhance the propagation of native species and ecosystem restoration in Banteay Srei District. At least 20 nursery operators and 50 community representatives will be trained, with community members responsible for planting and assisted natural regeneration. Alignment with the Million Tree Project will ensure consistency with national strategy, and community institutions will manage the nursery where feasible.

Restoration scale and species selection: The nursery will aim to produce at least 50,000 seedlings per year, based on an initial demand assessment. Restoration activities under this and related Component 2 outputs will target at least 150 hectares of degraded forest or watershed land. Species selection will be guided by a rapid ecological suitability assessment, prioritising native, climate-resilient, multi-purpose species, conducted jointly with the Forestry Administration and forest protection communities in year one.

Technical oversight and long-term sustainability of Outputs 2.3–2.6: Community contracting and low-technology construction are complemented by engineering oversight. All physical works will be designed by qualified technical personnel, such as engineers, hydrologists, or restoration specialists, engaged by the Executing Entity. Designs will be reviewed against flood, drought, and heat projections in Section 2 to ensure structures are suitable for current and future hazards. Community Maintenance Committees, established under each CDC and trained under Output 1.2, will manage routine operations and maintenance for their specific assets, with defined schedules and a minimum community contribution established before construction is completed.

Output 2.3 (Banteay Srei reservoir) will be enhanced through sediment removal, invasive species control, slope stabilisation, and rehabilitation of ~2.5 km of eco-trails, plus 100 solar lights and visitor amenities to improve safety and usability, all guided by site-specific technical design and environmental safeguards.

Output 2.4 (Svay Leu reservoir) will increase water availability and flood buffering across ~57 hectares in the Prey Phnum Mnas community through sediment clearance, vegetation management, embankment stabilisation, and water-control infrastructure repair, improving irrigation reliability and water security.

Output 2.5 (eco-villages) will establish or upgrade at least 12 sites using circular resource systems (renewable energy, decentralised wastewater treatment, food forests, climate-resilient homestays), with passive cooling, rainwater harvesting, and solar systems by reducing climate exposure and energy costs.

Closing the loop: What makes the eco-village model circular. The design will integrate wastewater reuse for food forest and homestay irrigation, composting, and small-scale biogas conversion of organic waste to fertiliser and cooking energy. It will prioritise local low-carbon construction materials and include solid-waste recycling linked to Output 2.8. These closed-loop features, rather than renewable energy and homestay upgrades alone, will make the model circular and directly reduce vulnerability to water- and waste-related climate stress.

Output 2.6 (Sangkat Nokor Thom sewerage/drainage) will improve nature-based wastewater and drainage systems over at least 1 km to manage greywater, reduce pollution and flood-related health risks, and improve sanitation, prioritising local labour and community contributions to O&M.

Clarifying the NbS/hybrid framing of Output 2.6: This output will combine nature-based elements, such as constructed wetlands and vegetated buffer or infiltration zones, with conventional sewerage infrastructure where nature-based treatment alone cannot meet public health requirements in Sangkat Nokor Thom's higher-density settlements. It is described as nature-based community infrastructure rather than pure NbS to reflect its hybrid design.

Output 2.7 (early warning systems) will be installed and operationalised for floods, droughts, and lightning in high-risk areas, improving preparedness and reducing loss and damage, with local stakeholders trained in operation, maintenance, and response.

Technology, service providers, and beneficiaries for Output 2.7: Systems will use low-cost sensors, including rain gauges, river-level sensors, and lightning detectors, combined with a community-operated alert protocol distributed via mobile networks, loudspeakers, and trained local monitors. The Cambodia Red Cross and MOWRAM's provincial office will provide calibration, forecast feeds, and monitor training, formalised in year one. All five poor settlements and five forest protection communities are targeted, with at least one trained monitor in each community.

Output 2.8 (solid waste management) will address climate-sensitive waste challenges through segregation, composting, recycling, and awareness training, thereby reducing drainage blockages, flood risks, and public health risks while supporting tourism.

Climate-resilience rationale for waste management and circularity: This approach will operate through three pathways:

(a) First, hazard mitigation, as uncollected waste blocks drainage and contributes to urban flooding (see Section 2).

(b) Second, ecosystem service protection, since waste and leachate degrade the watersheds and reservoirs restored under Component 2, so waste management safeguards these investments.

(c) Third, public health resilience, as composting and recycling reduce vector-breeding conditions that worsen after floods. Circularity, by converting organic waste into compost for Output 2.1's demonstration plots and diverting recyclables from open dumping, transforms a hazard into a productive input and reinforces the project's other investments.

Component 3: Supporting the local stakeholders in replicating the project's best practices through policy recommendations and knowledge sharing initiatives.

Component 3 will expand locally led adaptation by documenting and integrating lessons into planning and policy, building on Components 1 and 2. The People's Process will support adaptive learning through community monitoring, social audits, and participatory evaluation, informing iterative CAP revisions via CDC-led review meetings. Results will be reprioritised and revalidated through community assemblies and Commune/Sangkat endorsement.

Knowledge is translated into accessible formats and shared through community, institutional, and government channels, supporting the mainstreaming of NbS and community-led adaptation into national strategy, including Cambodia's Environment Strategy 2023–2033. A structured scaling pathway will turn successful models into guidelines, toolkits, and case studies, which are incorporated into Commune and District plans and national frameworks through Executing Entity-led policy dialogue.

Institutional arrangements and community knowledge protection: Component 3 will be managed by the Executing Entity, which will coordinate the development of knowledge products with technical input from CDCs, Forest Protection Committees, sub-national authorities, and the Ministry of Environment for policy-related outputs. Community members and institutions will act as co-authors and reviewers, not just sources. Community-generated knowledge, including practices identified through Output 1.1 and Component 2, will be documented with the originating community's free, prior, and informed consent, and attributed by name or institution (unless anonymity is requested) in all published outputs and Output 3.2/3.3 materials.

Validating community knowledge before scaling: Before findings and practices are used beyond the community, they will be reviewed and confirmed by the originating CDC or Forest Protection Committee. Only community-endorsed content will be included in knowledge products and policy briefs before Component 3 translates it into Output 3.3 guidelines and toolkits. Institutional learning will be sustained through two channels: CDC-led review meetings incorporate validated lessons into CAP and CIP revisions at the community and commune levels, while Output 3.2 policy briefs and Output 3.3 knowledge products carry validated practices into sub-national and national scaling guidance.

Outcome 3 will ensure that proven models for community-led, integrated climate adaptation—including nature-based solutions, resilient infrastructure, and diversified livelihoods—are documented, disseminated, and adopted for replication and policy integration at sub-national and national levels, including within Siem Reap's sustainable green tourism economy.

Output 3.1 will hold coordination meetings, study visits, and capacity-sharing workshops at district, provincial, and national levels among implementing partners, tourism businesses, cultural authorities, and communities (target: ≥30% women's participation), enabling shared learning and joint planning of resilient tourism routes, visitor management, and conservation approaches.

Output 3.2: Policy briefs will draw on project evidence to promote the integration of NbS and climate-adaptive practices into tourism, land-use, and development planning, identifying policy gaps and scaling opportunities in consultation with sub-national and national authorities.

Output 3.3: Knowledge products, bilingual (Khmer/English) case studies, toolkits, and training manuals documenting community-led innovation, will be disseminated through local media, schools, forest-protection-community networks, and government

platforms (accessible to non-literate and marginalised populations), with potential presentation at global/South-South knowledge-sharing platforms such as COP and other UNFCCC-mandated events.

B. Economic, social, and environmental benefits of proposed programme

1. Project Beneficiaries

The project will directly help about 91,529 people, including 45,674 women, and indirectly reach around 376,850, including 189,577 women, in Krong Siem Reap, Banteay Srei, and Svay Leu districts. Among those directly supported, 30 to 50% will be women, 20% will be youth aged 15 to 30, and 5% will be people with disabilities or their caregivers, with a focus on those most affected by climate risks. Indirect beneficiaries include downstream communities, local businesses, tourism operators, five forest protection groups, 110 Commune Councils, and community organisations, all of whom will build their skills in climate-risk planning and resource management. These efforts support Adaptation Fund goals such as reducing climate risk exposure, building resilience, and strengthening institutions.

2. Economic Benefits

The project will help forest-dependent communities become more economically stable and less vulnerable to climate change. Climate-smart farming and adding value to products, as planned in Output 2.1, will help reduce crop losses, maintain yields, and provide more ways for people to earn income, with a focus on women and youth. Agreements with buyers will make the value chain more efficient and help ensure steady incomes. Fixing reservoirs and water systems (Outputs 2.3 and 2.4) will provide more water during the dry season and help prevent crop losses from floods. Using renewable energy and passive cooling in eco-villages (Output 2.5), plus solar lighting at the Banteay Srei reservoir (Output 2.3), will lower energy costs for families and visitor sites. All these actions will boost productivity and give households more ways to make a living.

3. Social Benefits

The project will improve lives by addressing climate-related challenges in water, sanitation, and livelihoods. Better WASH services and clean energy will reduce health risks from floods and droughts and save time, especially for women and girls, so that they can participate more in the economy and community. Participating in ecosystem restoration and ecotourism will help people care for natural resources and share local environmental knowledge. Training and disaster preparedness will help communities get ready for climate hazards.

4. Environmental Benefits

The project will restore at least 150 hectares of damaged forest and watershed land through community reforestation and natural regeneration (Output 2.2), as well as about 57 hectares of reservoir and catchment area in Svay Leu district (Output 2.4). These steps will improve ecosystem services that manage water flow and lower climate risks. Restored plants will help keep slopes stable, stop erosion, and reduce flooding, while planting native species will support more wildlife and connect habitats. Solar lighting at visitor sites (Output 2.3) and in eco-villages (Output 2.5) will reduce the need for grid or fuel-based energy. Early warning systems (Output 2.7) and the involvement of forest protection communities (Outputs 2.1–2.2) will help with preparedness and conservation. These actions support Cambodia's NDC 3.0 and NBSAP, and should help keep more water in the soil, reduce sediment, and lower flood and drought risks.

5. Gender Equality, Youth Empowerment, and Social Inclusion

Gender equality and social inclusion are key parts of the project's adaptation plans. Women in rural Cambodia are more at risk from climate change because they have less access to resources and decision-making. Ensuring that 30 to 50% of participants are women, and supporting women's leadership—including at least 50% women in CDCs and Primary Groups under Component 1 will help women adapt and reduce climate risks that affect them differently. Women will also help add gender-responsive actions to local plans. Young people will join green jobs related to project activities, such as climate-smart farming (Output 2.1), nursery and restoration work (Output 2.2), and guiding eco-tourism and homestays (Outputs 2.3 and 2.5). Training in operations and maintenance under Output 1.2 will help people keep eco-village and reservoir systems running, build skills to adapt, and give options besides moving away because of climate change. People with disabilities and their caregivers will be included in decisions, given priority in Output 2.1's value chains and training, and benefit from accessible infrastructure and services. A Gender Action Plan, gender-disaggregated indicators, and the project's grievance redress system will help make sure the project is fair. The project supports SDGs 1 (no poverty), 5 (gender equality), 13 (climate action), and 15 (life on land), and renewable energy and efficient technology will also help reduce emissions.

Table 8 *Summary of economic, social, and environmental benefits of adopting a gender approach*

Benefit Type	Baseline	Benefits of project actions
Economic	- Households in the project target districts rely heavily on rain-fed agriculture and forest product collection, which are increasingly vulnerable to drought, erratic rainfall, and land degradation. - Women, youth, and other marginalized peoples face constrained livelihood options, limited access to finance, and weak integration into markets.	- The project promotes climate-smart agriculture, NTFP value chains, and eco-tourism, creating sustainable income, supported by market analysis and training. - Women and youth are trained in micro-enterprise and green tourism. - Water storage, eco-trails, and solar systems reduce production and transaction costs, while reducing forest pressure and water shortage. - Improved household incomes and access to assets strengthen financial resilience.

	- There is a lack of value chains or training to support diversified, climate-resilient livelihoods.	- Eco-villages and other ecotourism attractions will be established or upgraded to support sustainable tourism.
Social	- Limited participation of marginal populations in decision-making. - Climate impacts increase water and food insecurity, especially for women and the poor. - Social cohesion is weakened by migration and land tenure conflicts.	- Inclusive local adaptation planning promotes participation of women, youth, and marginalized groups. - Improved access to water, energy, and food - Security enhances community health, cohesion, and well-being. - Training and awareness campaigns build risk knowledge and strengthen institutional trust. - Gender-sensitive and accessible infrastructure reduces social exclusion. - Collection and analysis of updated climate data through EWS.
Environmental	- Forests in heritage-protected areas are degraded due to illegal logging, inappropriate management and maintenance, and unsustainable extraction. - Watersheds are affected by erosion, reduced flow, and biodiversity loss. - Drought events are increasing in frequency and intensity, threatening long-term ecosystem services.	- Forest and watershed restoration in 150 hectares improves biodiversity, soil retention, and water regulation. - Energy-efficient stoves and solar lighting reduce forest pressure and emissions. - Ecosystem-based approaches restore ecological functions. - Nature-based solutions increase landscape-scale resilience. - Less risk of illegal deforestation and forest fire through
Benefits for Women Empowerment, Youth, and Persons with Disabilities		- Direct support for the reactivation or formulation of women-led and youth-led eco-tourism enterprises. - Inclusive training programs targeting of female-headed households (FHHs), youth, and persons with disabilities, including non-literate participants for training, grants, and leadership roles. - Accessible design elements considered for eco-tourism and livelihood infrastructure. - Youth participation in ecosystem restoration and reforestation activities (Output 2.2) and in climate-smart agriculture value chains (Output 2.1). - Encouragement of persons with disabilities to engage in NTFP and value-addition activities under Output 2.1, with adapted employment opportunities and accessible training formats.

C. Cost-effectiveness of the proposed programme

The project manages costs by prioritising nature-based solutions (NbS) and community-led delivery instead of capital-intensive grey infrastructure. NbS interventions, including watershed rehabilitation, reforestation, and eco-based infrastructure, provide multiple co-benefits such as reduced climate risk, livelihood support, and ecosystem restoration at a lower lifecycle cost. Through the People's Process, communities contract and implement works directly, using local labour and materials to minimise contractor overheads. Community leadership is embedded throughout all stages, from site selection to procurement, construction monitoring, and post-completion management, ensuring maximum adaptation benefit per dollar invested.

Cost-effectiveness is achieved by linking Component 1 and Component 2. Component 1's enabling functions enhance Component 2's efficiency in three ways. First, Output 1.1's vulnerability assessments identify high-risk, high-demand sites before design begins, preventing unnecessary design or construction in lower-priority areas. Second, Community Action Plans under Output 1.3 are endorsed before design, reducing the risk of costly late-stage redesigns. Third, capacity building under Output 1.2 enables a lower-cost community contracting model for Component 2, avoiding the need for more expensive external contractor management or increased fiduciary risk. Component 1, representing 12.6% of the budget, is an enabling investment that increases the efficiency of Component 2 beyond its direct outputs.

1. Cost-efficiency through locally led delivery and community contracting

Through the People's Process, communities lead the implementation and maintenance of NbS and small-scale infrastructure, reducing dependence on external contractors and lowering mobilisation, supervision, and administrative costs while strengthening local ownership. Community Implementation Agreements ensure predictable financing, with priority actions identified through Community Action Planning. Communities receive training in financial management, procurement, and reporting before implementation, and disbursements are made in tranches based on verified progress. Involvement of Commune Councils, district administrations, and Community Protected Area committees integrates O&M responsibilities into governance systems, reducing lifecycle costs and the risk of asset failure.

Direct contracting with community groups is expected to reduce net transaction costs, provided the fiduciary capacitation pathway is followed as planned. Community contracting eliminates contractor mark-ups, mobilisation, and profit margins, which are often significant in rural Cambodia, and these savings generally outweigh the additional cost of safeguards except for the smallest subprojects. Safeguards are budgeted: Output 1.2 funds fiduciary training and independent assessments that CDCs must complete before managing funds. If a CDC has not yet met these requirements, the Executing Entity provides direct financial management support for its first subproject. Milestone-based disbursement, dual-signatory accounts, quarterly reporting, and spot-check audits help prevent financial mismanagement. For subprojects that exceed a CDC's capacity, such as larger engineered works under

Outputs 2.3–2.6, the Executing Entity procures directly. Community contracting is therefore applied selectively, only where it is demonstrably more efficient.

2. Cost-effectiveness through NbS and low-maintenance solutions
Interventions such as assisted natural regeneration, reforestation, slope stabilisation, and watershed rehabilitation offer multiple protective benefits, including flood attenuation, erosion control, improved soil moisture and water regulation, sediment retention, and microclimate regulation, while requiring minimal long-term maintenance. Where infrastructure is necessary, communities design for durability, local repairability, and community-led upkeep. According to UN-Habitat's experience, the People's Process delivers about 20% more value for money than conventional approaches.

3. Strategic allocation to high-impact investments
Resources are allocated to interventions with measurable resilience benefits, avoiding high-cost, hard-to-maintain options. Approximately 68.6% of the budget is dedicated to physical and ecosystem-based investments, supported by essential soft measures such as planning, training, and institutional strengthening to ensure sustained functionality. Using local materials and labour reduces costs, creates jobs, and builds local capacity.

4. Transparent unit-cost approach
Cost-effectiveness is measured using a conservative unit-cost metric (cost per direct beneficiary), enabling comparison across interventions. Indirect beneficiaries are excluded from the calculation, so actual cost-effectiveness is likely higher than reported. Some interventions provide indirect benefits, such as downstream households benefiting from watershed management, which are not captured by this metric. Estimates will be refined during full proposal development based on detailed design and beneficiary mapping.

5. Avoided losses and long-term savings
Without the programme, target districts would continue to experience losses from drought, flooding, erosion, and ecosystem degradation, resulting in recurring repair and recovery costs. Strengthening water retention, stabilising slopes, restoring vegetation, improving drainage and wastewater systems, and installing early warning systems prevent these issues more cost-effectively than reactive responses, leading to reduced flood damage, lower sedimentation and maintenance needs, and decreased emergency-response and asset-replacement costs.

6. Replicability and reduced future costs
The programme lowers future adaptation costs by documenting and standardising proven approaches for replication. Commune Councils, CPA committees, and sub-national authorities will assume maintenance responsibilities and integrate climate budgeting into planning tools. Locally appropriate financing, such as ecotourism revenue, community contributions, and cost-sharing, will support O&M and ensure long-term functionality.

Table 9 *Beneficiaries and dimensions of the outputs (preliminary estimate)*

Output	District	Estimated beneficiaries			Estimated cost (B)	Cost-effectiveness of direct beneficiaries (B/A)
		Direct (A)	Direct beneficiary overlap between activities	Indirect		
Output 1.1	Krong Siem Reap, Banteay Srei, and Svay Leu districts	388 (Women: 116)	**Unique beneficiaries without overlap:** 388 (116)	376,850 (Women: 189,577)	US$ 96,000	247.42
Output 1.2		388 (Women: 116)	388 (116) participants overlapped (Output 1.1) 388 (116) participants overlapped (Output 1.1)	376,850 (Women: 189,577)	US$ 116,000	298.97
Output 1.3		2,476 (Women: 1,224)	**Unique beneficiaries without overlap: 2,476 (1,224)**	5,582 (Women: 2,763)	US$ 70,000	28.27
Output 1.4		2,476 (Women: 1,224)	2,476 (1,224) participants overlapped (Output 1.3)	5,582 (Women: 2,763)	US$ 110,000	44.43
Output 2.1		2,476 (Women: 1,224)	2,476 (1,224) trainees overlapped (Output 1.3)	5,582 (Women: 2,763)	US$ 541,000	218.50
Output 2.2	Banteay Srei district	70 (Women: 35)	**Unique beneficiaries without overlap**: 70 (35)	376,850 (Women: 189,577)	US$ 250,000	3,571.43
Output 2.3	Banteay Srei district	10,148 (Women: 5,186)	**Unique beneficiaries without overlap**: 10,148 (Women: 5,186)	49,520 (Women: 25,049)	US$ 450,000	44.34
Output 2.4	Svay Leu district	5,582 (Women: 2,763)	**Unique beneficiaries without overlap**: 5,582 (2,763)	51,072 (Women: 25,564)	US$ 699,000	125.22
Output 2.5	Krong Siem Reap, Banteay Srey and Svay Leu districts	2,476 (Women: 1,224)	2,476 (1,224) trainees overlapped (Output 1.3)	376,850 (Women: 189,577)	US$ 560,000	226.17
Output 2.6	Krong Siem Reap	14,478 (Women: 7,152)	**Unique beneficiaries without overlap**: 14,478 (7,152)	276,258 (Women: 138,964)	US$ 510,000	35.23

Output 2.7	Krong Siem Reap	39,199 (Women: 19,598)	14,478 (7,152) beneficiaries overlapped (Output 2.6) **Unique beneficiaries without overlap**: 24,721 (12,446)	276,258 (Women: 138,964)	US$ 150,000	3.83
Output 2.8	Krong Siem Reap, Banteay Srei, and Svay Leu districts	2,200 (Women: 1,100)	388 (116) participants overlapped (Outputs 1.1) **Unique beneficiaries without overlap**: 1,812 (984)	376,850 (Women: 189,577)	US$ 188,000	85.45
Output 3.1	Krong Siem Reap, Banteay Srei, and Svay Leu districts	500 (Women: 250)	388 (116) participants overlapped (Output 1.1) **Unique beneficiaries without overlap**: 112 (134)	376,850 (Women: 189,577)	US$ 205,000	410.00
Output 3.2		500 (Women: 250)	500 (250) participants overlapped (Output 3.1)	376,850 (Women: 189,577)	US$ 156,000	312.00
Output 3.3		500 (Women: 250)		376,850 (Women: 189,577)	US$ 107,000	214.00
TOTAL	**3 districts**	**83,857* (Women: 41,712*)**	**59,787** (Women: 30,040)**	**376,850*** (Women: 189,577)**	**US$ 4,208,000**	**50.19**

** Total number of direct beneficiaries includes duplicated beneficiaries.*
*** Direct beneficiaries without overlapped populations*
**** Total population of three target city/districts*

Output 2.2's cost per direct beneficiary (US$3,571.43) is higher than the project average (US$50.19) because the direct-beneficiary count in Table 9 reflects only the 70 nursery operators and community representatives trained, not the broader group benefiting from the nursery's output. The same US$250,000 funds the regional nursery and seedling production, targeting at least 50,000 seedlings per year and supporting a minimum of 150 hectares of restoration. The ecosystem-service benefits extend to Output 2.2's indirect-beneficiary estimate of 376,850 people. When measured as cost per hectare restored, Output 2.2 is approximately US$1,667/ha (US$250,000/150 ha), consistent with Output 2.1's restoration cost. The nursery is essential for meeting Outputs 2.1–2.2 targets, as sourcing over 50,000 climate-appropriate native seedlings annually from external nurseries would be more expensive and would not build local propagation capacity for future restoration. This US$1,667/ha also compares favourably to a regional benchmark: a carbon-finance cost review of five Southeast Asian countries found Cambodia's average reforestation/restoration cost to be the lowest at approximately US$2,066/ha, which is higher than this project's figure.

Table 10 *Cost-Effectiveness Criteria*

Proposed Action	Cost Effectiveness Criteria		Alternative Action	Cost Effectiveness Criteria	
Strengthening institutional and governance capacities for climate change adaptation through socio-economic and climate vulnerability assessments.	Future cost of climate change	✓	* Continued failure to integrate climate risks into governance and planning processes	Future cost of climate change	✓
	Project efficiency	✓		Project efficiency	X
	Community involvement	✓		Community involvement	X
	Cost/Feasibility	✓		Cost/Feasibility	x
	Environmental and social safeguarding risks	✓		Environmental and social safeguarding risks	Higher risks
Climate-smart and market-oriented agriculture and NTFP-based livelihoods in heritage-protected areas.	Future cost of climate change	✓	* Continue traditional rain-fed farming * Heavy reliance on forest extraction	Future cost of climate change	✓
	Project efficiency	✓		Project efficiency	X
	Community involvement	✓		Community involvement	X
	Cost/Feasibility	✓		Cost/Feasibility	x
	Environmental and social safeguarding risks	✓		Environmental and social safeguarding risks	Higher risks
Restoration of degraded forest and watershed using nature-based solutions and community planting.	Future cost of climate change	✓	* Engineered reforestation by external contractors * Expansion of concrete structures for slope control	Future cost of climate change	✓
	Project efficiency	✓		Project efficiency	X
	Community involvement	✓		Community involvement	X
	Cost/Feasibility	✓		Cost/Feasibility	X
	Environmental and social safeguarding risks	✓		Environmental and social safeguarding risks	Higher risks
Construction of village-level water storage reservoirs, eco-trails, and erosion control using vegetative techniques.	Future cost of climate change	✓	* Build centralized piped infrastructure * Import concrete-based erosion barriers	Future cost of climate change	✓
	Project efficiency	✓		Project efficiency	x
	Community involvement	✓		Community involvement	X
	Cost/Feasibility	✓		Cost/Feasibility	X
	Environmental and social safeguarding risks	✓		Environmental and social safeguarding risks	Higher risks
Installation of community-based early warning systems in high-risk areas.	Future cost of climate change	✓	* No or limited climate data for disaster	Future cost of climate change	N/A
	Project efficiency	✓		Project efficiency	N/A
	Community involvement	✓		Community involvement	N/A
	Cost/Feasibility	✓		Cost/Feasibility	N/A

	Environmental and social safeguarding risks	✓	preparedness and planning.	Environmental and social safeguarding risks	N/A
Training and inclusive planning for local adaptation (communes, forest protection communities, women/youth leaders).	Future cost of climate change		* Rely only on technical experts and external facilitators	Future cost of climate change	N/A
	Project efficiency	✓		Project efficiency	N/A
	Community involvement	✓		Community involvement	N/A
	Cost/Feasibility	✓		Cost/Feasibility	N/A
	Environmental and social safeguarding risks	✓		Environmental and social safeguarding risks	N/A

Cost-effectiveness of non-NBS and hybrid interventions

Table 11 applies the same alternative-comparison logic to the project's non-NBS and hybrid investments, including resilient infrastructure, sustainable agriculture value chains, circular or eco-village solutions, and knowledge or policy support, covering the full investment scope. The main driver of cost-effectiveness is integration: each investment delivers multiple benefits, such as sanitation and flood reduction or livelihoods and ecosystem restoration, from a single budget line. This approach is more cost-effective than funding single-purpose sectoral alternatives separately, even if a sectoral alternative has a lower unit cost in isolation

Table 11 *Cost-effectiveness of non-NBS and hybrid interventions*

Intervention (non-NBS or hybrid)	Alternative approach considered	Why this approach is more cost-effective
Eco-village circular systems (Output 2.5)	Conventional single-purpose tourism/housing upgrades: grid power, externally sourced materials, no wastewater reuse	Combines livelihood, energy, and sanitation benefits in one investment; renewable energy and local materials avoid recurring grid/fuel costs; avoids funding separate single-purpose projects for energy, wastewater, and tourism upgrades
Flood-resilient sewerage / eco-wastewater (Output 2.6)	Fully engineered conventional sewerage extended across all vulnerable settlements	Hybrid nature-based/engineered design (see Output 2.6 revision under Criterion 2) reduces construction, energy, and maintenance costs relative to full conventional extension while still meeting public-health requirements in higher-density areas
Climate-smart agriculture & value chains (Output 2.1)	External extension services or commercial input-supply/advisory models	Embeds training and market linkages in existing community structures at no recurring extension-service cost; demonstration plots enable farmer-to-farmer scaling instead of paying per-farmer external technical assistance
Solid waste management (Output 2.8)	Centralized municipal collection and disposal	Community-led segregation, composting, and recycling avoids the capital cost of centralized collection infrastructure in dispersed rural/peri-urban settlements, while directly reducing flood risk (see the Output 2.8 climate-resilience rationale under Criterion 2)
Knowledge management & policy support (Component 3)	Stand-alone consultancy-led studies and knowledge products	Embeds knowledge generation in implementation: Output 1.1-1.4 assessments and Component 2 experience feed directly into Output 3.3 products instead of commissioning separate studies; policy engagement uses existing government coordination platforms

Unit-cost benchmarking against comparable projects

This proposal's overall cost-effectiveness metric (US$50.19 per direct beneficiary, Table 9) and its component-level range (US$3.83–3,571.43) are benchmarked against three comparable projects (Table 12). The Cambodia protected-areas project (UNEP/MoE, 2012–2021) provided a US$4.9 million grant, similar in scale to this project's US$4,999,420 request, restoring 4,798 hectares and planting over 902,364 trees, which aligns with this proposal's Output 2.1–2.2 targets. The AF/UN-Habitat Kampot and Koh Kong project, the closest institutional precedent due to the same Implementing/Executing Entity partnership, received a US$10 million grant for a comparable multi-component structure, about double this project's budget, indicating this request is conservative. The coastal-settlements project (UN-Habitat/NCSD, 2021–2025) received a US$5,000,000 grant, delivering 62,521 direct beneficiaries at approximately US$80 per direct beneficiary, using the same calculation as Table 9. With the same Implementing Entity and a similar grant size, this project's US$50.19 average compares favourably. Within Table 9, the unit-cost range aligns with intervention type: capacity-building and planning outputs (1.1–1.2) are US$220–300 per direct beneficiary due to smaller-group delivery; Outputs 1.3–1.4 are lower because they involve broader community assemblies; and larger-scale infrastructure outputs (2.6, 2.7) are below US$45, reflecting greater reach per dollar spent.

Table 12 *Unit-cost benchmarking against comparable AF/UN-Habitat and Cambodia forest-restoration projects*

Comparator project	Grant amount / Implementing Entity	Direct beneficiaries / scale	Unit cost
This proposal (Siem Reap)	US$4,999,420; UN-Habitat (IE) / MoE (EE)	83,857 direct (duplicated basis); 59,787 unique	US$50.19 (duplicated basis, Table 9)
Cambodia protected-areas project (UNEP/MoE, 2012–2021)	US$4.9 million; UNEP (IE)	4,798 ha forest/mangrove restored (area-based, not beneficiary-based)	~US$1,021 per ha restored
Kampot & Koh Kong (AF/UN-Habitat, 2024–2028)	US$10 million; UN-Habitat (IE) / MoE (EE)	Not publicly reported at concept stage	Not yet available

Coastal settlements, Kep & Preah Sihanouk (UN-Habitat/NCSD, 2021–2025)	US$5,000,000; UN-Habitat (IE) / NCSD (EE)	62,521 direct (28,021 Kep + 34,500 Prey Nob)	~US$80 per direct beneficiary

Sources: Adaptation Fund project database (project pages for AF00000114 and the Kampot/Koh Kong and Cambodia protected-areas projects); Hamerkop, "Carbon Finance for NbS in Southeast Asia" (regional per-hectare reforestation benchmark, cited under Output 2.2).

D. Consistency with national or sub-national development programmes

The proposed climate adaptation project in Krong Siem Reap, Banteay Srei, and Svay Leu districts aligns closely with Cambodia's national and sub-national climate and development frameworks. It translates national policy commitments on climate resilience, biodiversity protection, and sustainable livelihoods into concrete, locally led adaptation actions that address community-identified climate risks, including droughts, rainfall variability, and ecosystem degradation.

1. Alignment with National Development Vision and Local Initiatives
The project directly supports the Rectangular Strategy Phase IV (2023–2028) and Cambodia Vision 2050 by promoting inclusive and sustainable development, governance reform, and rural transformation. It advances human capital development, climate-resilient infrastructure, green livelihoods driven by the private sector, and environmental sustainability. By focusing on eco-trails, local ecotourism services, and inclusive business opportunities for forest-edge communities, the project supports the Ministry of Environment's Green Destination Framework. This approach links biodiversity protection with sustainable income through ecotourism, accommodation, handicrafts, and nature-based services, ensuring adaptation measures are grounded in national frameworks and avoid maladaptation.

2. Alignment with National Climate Policy and Adaptation Planning
The project directly supports the Cambodia Climate Change Strategic Plan (CCCSP) 2024–2033 and its vision of "carbon neutrality and climate resilience through inclusive and sustainable development." It contributes to Strategic Objective 1 by promoting low-emission development through forest restoration and NTFP-based livelihoods; to Strategic Objective 2 by enhancing adaptive capacity with climate-resilient infrastructure, water systems, and nature-based solutions; and to Strategic Objective 3 by strengthening governance through CPA committees and climate-integrated commune planning. The project also supports Cambodia's Updated NDC (NDC 3.0, 2024) by advancing sustainable forest management in the FOLU sector, ecosystem-based adaptation, gender-responsive locally led planning, and nature-based solutions for water and land resilience. This reinforces the Adaptation Fund's objective of supporting country-driven adaptation, with Commune Councils, district administrations, and sectoral agencies responsible for integrating these priorities. The project is also consistent with Cambodia's national poverty reduction strategy, national communications to the UNFCCC, and its NAPA/NAP adaptation planning processes, as discussed below.

Consistency with national poverty reduction strategy. Cambodia's National Strategic Development Plan 2024–2028 identifies economic growth and poverty reduction as core priorities and acknowledges that unmanaged climate risk threatens these goals. The project aligns with this strategy. Component 2's livelihood investments—including climate-smart agriculture, forest and NTFP-based livelihoods, ecotourism, and eco-village enterprises—directly target rural, forest-edge, climate-exposed communities identified in Section A as facing disproportionate poverty risk. The project pursues adaptation and poverty reduction as integrated objectives.

Consistency with national communications to the UNFCCC. The project aligns with the priority vulnerabilities Cambodia reported to the UNFCCC in its Initial (2002) and Third (2022) National Communications, which identify agriculture, water resources, forestry, and human settlements as climate-vulnerable sectors. By focusing on water-resource resilience, forest and watershed restoration, and climate-smart agriculture, the project directly addresses these priorities. Its results will inform Cambodia's future national communications.

Consistency with the NAPA/NAP process. Cambodia completed its National Adaptation Programme of Action (NAPA) in 2006 and submitted its NAP, the CCCSP 2014–2023, to the UNFCCC on 7 July 2021. The Ministry of Environment is now leading a revised NAP through a new National Strategic Plan on Climate Change, supported by UNDP's SCALA programme. The project complements both the existing and revised NAP. Its climate risk profiling and community-prioritised planning (Outputs 1.1–1.3) generate local-level adaptation evidence for national scaling. Component 3's policy engagement will share this evidence with the Ministry of Environment to support integration into the revised NAP.

3. Compliance with Forestry, Environmental, and Protected Area Frameworks
The project complies with the Protected Areas Law (2008) and aligns with the National Forest Programme (2010–2029), particularly its objectives on participatory forest governance, forest landscape restoration, and sustainable NTFP value chains. Together, these frameworks provide the regulatory and institutional basis for implementing ecosystem-based adaptation and community-led forest restoration in a legally secure and policy-supported manner.

4. Support for National and Sub-National Planning Frameworks
The project connects community-level priorities to Commune Development Plans (CDPs), Commune Investment Plans (CIPs), and District/City Development Plans. It builds the capacity of Commune Councils and CPA committees to mainstream climate risk and

strengthens sub-national ownership. The project also aligns with the Siem Reap Tourism Development Master Plan (2021–2035), promoting nature-based, low-carbon tourism and climate-resilient infrastructure in heritage and tourism corridors.

Each project component aligns with specific sub-national instruments. Component 1 integrates climate risk, nature-based solutions, and community priorities into CDPs, CIPs, and DDPs. Component 2 aligns with protected area management plans, community forestry and CPA operational plans, and green tourism strategies. Component 3 links community-level evidence to higher-level policy processes for institutional uptake and scaling. Together, these measures ensure that adaptation priorities identified through Community Action Planning are formally integrated into annual Commune/Sangkat budgets, district investment programming, and sectoral financing, sustaining implementation beyond the project period through ongoing local budgeting cycles.

Operationalising CDP/CIP/DDP integration under Component 1

The integration of climate risk, nature-based solutions, and community priorities into CDPs, CIPs, and DDPs follows a defined sequence of steps, actors, and responsibilities (Table 13), rather than a general commitment to alignment. The process begins with community-level evidence generation and prioritisation (Steps 1–2), followed by validation and formal adoption through existing commune governance structures (Step 3). These priorities are then incorporated into statutory planning instruments through the established annual CIP/CDP and multi-year DDP cycles used by Commune Councils and District Administrations (Steps 4–5). The Ministry of Environment and the Project Management Unit provide climate-alignment quality assurance, not approval authority (Step 6). The process is reviewed annually (Step 7), relies on existing government procedures, and is designed to continue after the project period.

Table 13 *Institutional arrangements for integrating climate risk, NbS, and community priorities into CDPs, CIPs, and DDPs under Component 1*

Step	Process	Responsible actor(s)	Instrument / output
1	Participatory climate risk assessment and NbS option identification at community level	CDCs and Primary Groups, facilitated by Executing Entity field teams	Climate risk profiles, green tourism maps (Output 1.1)
2	Community Action Plan (CAP) formulation, prioritising climate risk, NbS, and community priorities	CDCs and Primary Groups through the People's Process	Draft CAP (Output 1.3)
3	Technical review and formal endorsement of the CAP	Commune/Sangkat Council (with CPA committee input on protected-area-relevant priorities)	Council-endorsed CAP
4	Integration of endorsed CAP priorities into the annual Commune Investment Plan and Commune Development Plan update	Commune Council Planning and Budget Committee, supported by Output 1.2 capacity-building	Updated CIP/CDP with adaptation line items
5	Aggregation of commune-level priorities into the District/City Development Plan	District Administration / District Integration Working Group, following Ministry of Interior D&D planning procedures	Updated DDP
6	Climate-alignment quality assurance	Provincial Department of Environment and the Project Management Unit	Confirmation that CDP/CIP/DDP entries reflect climate risk and NbS evidence
7	Annual monitoring and review, feeding the next CAP cycle	CDCs, Commune Councils, and Component 3 M&E	Review report and revised CAP for the following planning cycle

5. Contribution to Sustainable Development Goals (SDGs)

While the Adaptation Fund focuses on climate resilience, the project generates development co-benefits aligned with the SDGs, advancing Cambodia's 2030 Agenda commitments as follows:

Table 14 *Project alignment with SDGs*

Project Element	Aligned SDGs
Diversified, resilient rural livelihoods (Output 2.1)	**SDG 1** – No Poverty; **SDG 2** – Zero Hunger; **SDG 8** – Decent Work
Women and youth engagement in value chains	**SDG 5** – Gender Equality; **SDG 10** – Reduced Inequalities
Climate-resilient water infrastructure (Outputs 2.3, 2.4, and 2.6)	**SDG 6** – Clean Water and Sanitation; **SDG 13** – Climate Action
A regional nursery operation and forest restoration (Outputs 2.2)	**SDG 15** – Life on Land; **SDG 12** – Responsible Consumption
Eco-village establishment and early warning system installation (Outputs 2.5 and 2.7)	**SDG 7** – Affordable and Clean Energy; **SDG 8** – Decent Work; **SDG 13** – Climate Action
Local climate governance and institutional capacity (Component 1)	**SDG 16** – Peace, Justice and Institutions; **SDG 13**
Renewable energy and clean technologies (Component 2)	**SDG 7** – Affordable and Clean Energy

Table 15 *Key Government policies/strategies/plans adopted in the project*

National Policy / Responsible Agency	Proposed Project Elements Consistent with Policy

Cambodia Climate Change Strategic Plan (CCCSP) 2024–2033 – Ministry of Environment	Supports CCCSP Strategic Objectives 1, 2 and 3 by integrating sustainable agriculture, water systems, and institutional capacity building into local climate adaptation measures.
Updated Nationally Determined Contributions (NDC 2020 and inputs to NDC 3.0) – Ministry of Environment	Restores 57 hectares of forest, strengthens commune-level climate governance, and promotes inclusive adaptation – aligned with FOLU targets and adaptation priorities in NDC 2020 and 3.0.
National Forest Programme 2010–2029 – Forestry Administration	Promotes participatory forest governance, landscape restoration, and non-timber forest product (NTFP) value chains in support of community-based forest management.
Commune Development Plans and Investment Plans – Ministry of Planning and Sub-national Authorities	Mainstream adaptation into local planning and budgeting frameworks (CDPs/CIPs), promoting vertical coherence and local implementation of national priorities.

Table 16 *Key Laws, Policies, and Knowledge Resources Related to Protected Areas and Community Forestry in Cambodia*

Policy / Publication Title	Type	Lead Institution/ Authors	Relevance to Project
Protected Areas Law (2008)	National Law	Royal Government of Cambodia	Establishes a legal framework for forest protection, community governance, zoning, and biodiversity protection.
Law on the Protection of Cultural Heritage (1996)	National Law	Royal Government of Cambodia	Protects national cultural heritage against destruction, alteration, illegal excavation, export/import, and other threats.
Royal Decree on Zoning and Management of the Siem Reap-Angkor Region (1994)	National Law	Royal Government of Cambodia	Establishes the protected zone framework for the Angkor area, defining multiple zones with varying levels of protection and regulatory control essential for heritage safeguarding.
Law on Forestry (2002)	National Law	Royal Government of Cambodia	Governs forest management, use, conservation, and development across Cambodia and provides the legal basis for community forestry
Siem Reap Tourism Development Master Plan (2021–2035)	Provincial Master Plan	Royal Government of Cambodia	Promote nature-based, low-carbon tourism development and climate-resilient infrastructure in heritage and tourism corridors.
National Forest Programme (2009)	Policy Framework	Forestry Administration	Provides long-term direction for forest sector reform, including community forestry. Ensures alignment of forest protection, community-based restoration and livelihood components.
Community Forestry Sub-Decree (2003)	Sub-national Regulation	Forestry Administration	Guides legal registration and governance of Community Forests (CFs) relevant for supporting forest protection, community structure and co-management mechanisms.
REDD+ and Cambodia: Engaging Community Views (2013)	Policy Brief	Civil Society Coalition	Highlights the role of community voices in REDD+, aligns with the project's inclusive planning and carbon co-benefits.
Market and Non-Market Costs of REDD+ (2011)	Research Study	Caravani & Graham	Offers insights into community trade-offs and perceptions in forest protection schemes, useful for risk-benefit analysis.
Cambodia: Forest Conflict Assessment (2004)	Conflict Study	Schweithelm & Chanthy	Provides a cautionary lens on unresolved tenure or enforcement gaps, useful for risk mitigation in forest protection communities' governance.

E. Compliance with relevant technical standards and policies

The proposed project in Krong Siem Reap, Banteay Srei, and Svay Leu districts will comply with Cambodia's national technical standards, sectoral laws, and environmental regulations. It will also align with the Adaptation Fund's Environmental and Social Policy (ESP), integrating climate adaptation with sustainable infrastructure, ecosystem restoration, and inclusive development. Key compliance areas include: environmental and social screening and management (IEE/ESIA and ESMPs, as required by national regulations and AF ESP); water and wastewater infrastructure design approvals (MOWRAM and rural WASH standards); eco-trail, slope-stabilisation, and small-infrastructure siting and design (MRD and MLMUPC guidelines); protected area, biodiversity, and heritage-related approvals (Angkor zoning compliance, coordination with GDANCP and APSARA Authority); and local land-use, construction, and development permissions (Commune/Sangkat and district authorities).

i. Environmental and Legal Safeguards

All physical and land-based interventions (reservoirs, eco-trails, eco-villages) will be screened under the Law on Environmental Protection and Natural Resource Management (1996) and the Sub-Decree on Environmental Impact Assessment (1999), with IEEs or ESIAs conducted in consultation with MoE, as appropriate to the scale and nature of the activities. For activities within or adjacent to Angkor's heritage-protected areas, the project will adhere to the Law on the Protection of Cultural Heritage (1996), the Royal Decree on Zoning and Management of the Siem Reap-Angkor Region (1994), and the Protected Areas Law (2008), coordinating closely with GDANCP (MoE) on biodiversity conservation, zoning, and protected-area management. Ecosystem restoration activities (native tree planting and the regional nursery) will follow the Forestry Law (2002), ensuring that community co-management of natural resources is legally grounded and ecologically appropriate.

ii. Technical Compliance by Sector
Water Resources: Water infrastructure, such as reservoirs and floodgates, will comply with MOWRAM technical standards and the Water Law (2007). PDWRAM will coordinate to ensure that local hydrology and climate resilience are considered in design and siting. Rural Infrastructure: Small-scale works, including slope stabilisation, nature trails, and solar lighting, will follow MRD and MLMUPC technical guidelines and relevant building codes. Eco-Tourism Infrastructure: Site rehabilitation, tourism facilities, and biodiversity corridors will align with the National Strategic Plan on Green Development (2013–2030) and the Circular Strategy for Environment (2023–2028). Eco-villages: Circular resource systems will comply with the National Green Growth Roadmap (2009). Clean water and sanitation components will meet the requirements of the Law on Clean Water Management, the Rural WASH Policy (2014–2025), and MRD's Design Manual for Household Latrines (2015), and will apply Universal Design principles in accordance with the Disability Law (2009).

iii. Labour, Safety, and Community Contracting
All construction and infrastructure activities will comply with the occupational health and safety requirements of Cambodia's Labour Law (1997), including fair wages, non-discrimination, and worksite safety. The project will use UN-Habitat's Community Contracting Guidelines to engage local labour for small-scale works. Community Implementation Agreements will support compliance monitoring, issue reporting, and adherence to approved designs and safeguards at each site.

2. Environmental and Social Safeguards and Adaptation Fund ESP
The project is expected to be classified as Category B, subject to confirmation during detailed screening. This reflects the likelihood of site-specific, limited, and reversible impacts that can be managed with appropriate mitigation. An Environmental and Social Management Plan will be developed at the full proposal stage based on screening results. The project will comply with all 15 AF ESP principles throughout design, implementation, and monitoring. Special focus will be given to biodiversity conservation and habitat integrity in fire-prone forest areas; gender equality and social inclusion, ensuring equitable access to livelihoods, capacity-building, and leadership; avoidance of involuntary resettlement and access restrictions; sustainable natural resource management, including community-based NTFP stewardship, slope stabilisation, and fire management; and pollution prevention and environmental health, especially wastewater and sewage management and sustainable eco-villages.

Structured environmental and social risk assessment
The table (Table 17) below presents the environmental and social risk assessment for this concept stage, structured around the four elements requested by the Secretariat: screening, mitigation, monitoring, and institutional responsibility. This assessment covers each risk theme above, as well as specific risks related to small-scale construction and activities near forest protection communities. It supplements, but does not replace, the detailed principle-by-principle screening in Table 25. A comprehensive, site-specific ESMP will be developed at the full proposal stage after detailed site assessments are completed.

Table 17 *Environmental and social risk assessment for this concept stage*

ESP risk theme	Screening	Mitigation	Monitoring	Institutional responsibility
Biodiversity & natural habitats	Site-specific ecological screening during CAP finalization (Outputs 1.1-1.2) before any design work begins	Siting avoids critical habitats; nature-based design; buffer zones around sensitive areas	Quarterly ecological spot-checks; annual habitat condition review	Executing Entity (technical); Forestry Administration (technical input); Forest Protection Committees (field monitoring)
Small-scale construction (reservoirs, trails, water gates, sewerage)	Technical design review and ESMP screening before works begin, per the Compliance Process above	Qualified engineering design (per the Component 2 technical-oversight arrangements); confirmation of local stakeholders, OHS protocols; construction-window restrictions	Site inspections during construction; post-completion defect-liability inspection	Executing Entity supervision; qualified engineers; Community Maintenance Committees post-handover
Work with forest protection communities	Screening of forest-based activities (Outputs 2.1-2.2) against the Community Forestry Sub-Decree and existing forest management plans	Activities co-designed with, not imposed on, Forest Protection Committees; sustainable-extraction limits maintained	Annual forest condition monitoring; social audit of community agreements	Forestry Administration; Forest Protection Committees; Executing Entity
Gender & social inclusion	Gender-disaggregated baseline collected at Output 1.1	Gender Action Plan; participation quotas; targeted outreach for marginalized groups	Disaggregated indicator tracking each reporting cycle	Executing Entity Gender Focal Point; CDCs
Involuntary resettlement / restricted access	Land-tenure and customary resource-access screening at site-selection stage (Output 1.3)	Avoidance-first siting through site assessment and demarcation; customary-use mapping completed before	GRM intake log reviewed quarterly for access-related complaints	Executing Entity; Commune/Sangkat Councils

		finalizing reservoir, trail, or reforestation sites		
Pollution prevention (wastewater, solid waste, sediment)	Screening of waste- and wastewater-generating outputs (2.4, 2.6, 2.8)	Hybrid nature-based/engineered treatment (Output 2.6); waste segregation and composting (Output 2.8)	Water-quality spot testing; functionality checks of waste and wastewater systems	Executing Entity; Community Maintenance Committees

The project will establish an accessible and transparent Grievance Redress Mechanism (GRM) at the local level, integrated with existing forest protection groups and Commune governance structures. The GRM will ensure meaningful access for all social groups, including women, youth, and Indigenous peoples, with clear procedures for receiving, documenting, and resolving concerns. The safeguard monitoring system will build the capacity of local institutions and communities to implement mitigation measures, document compliance, and ensure accountability. This approach will support ongoing monitoring, reporting, and adaptive management in line with the AF ESP and results-based management.

3. Indigenous Peoples and Displaced Population

Relying solely on national census and local registration records to confirm the absence of Indigenous Peoples is insufficient. Other sections of this proposal reference forest-dependent communities, language barriers, and traditional ecological knowledge in the target districts, which require further examination. At the full proposal stage, the project will conduct a dedicated Indigenous Peoples screening, consistent with the AF ESP and national procedures. This will include community-level consultations in the five poor settlements and five forest-protection communities to determine whether any groups self-identify as Indigenous Peoples, distinct from other ethnic-minority or forest-dependent groups. If Indigenous Peoples are identified, the project will document their specific vulnerabilities, describe expected benefits and any differentiated risks, and design culturally appropriate free, prior, and informed consultation and engagement processes. Regarding displacement, the project confirms that no land acquisition or physical relocation is planned. However, activities such as reservoir rehabilitation, reforestation, and eco-trail development may restrict customary or informal access to land, forests, water, or NTFPs, even without physical displacement. These risks are addressed through land tenure and resource access screening, as outlined in the structured risk table above, and through the GRM's access-related complaint channel.

4. Compliance Process and Implementation Pathway

The project aims to meet the technical and regulatory requirements of the Royal Government of Cambodia and align with the AF ESP. Environmental and social safeguards will be integrated throughout design, implementation, and monitoring to ensure adaptation benefits are delivered equitably and sustainably, while avoiding adverse impacts and strengthening community resilience.

Compliance responsibilities are shared. The Executing Entity oversees overall compliance and technical validation. Provincial departments support design review and approvals. Commune and Sangkat authorities ensure alignment with local planning and permits. Community institutions participate in monitoring, reporting, and adherence to approved safeguards. All subprojects follow a structured process: screening (environmental and social screening of all CAP-identified activities to determine risk category and required assessment level); design review (technical designs reviewed against sectoral standards by qualified engineers and provincial technical departments); approval and clearance (from MoE and relevant sectoral or heritage authorities); supervision and compliance monitoring (regular site inspections by the Executing Entity with provincial departments and Commune or Sangkat authorities); and handover and O&M capacity-building (training on operation, maintenance, and compliance monitoring upon completion).

Table 18 now includes a fifth column that identifies the specific training, tools, or technical assistance provided to communities and community institutions to support compliance with relevant technical standards for each output. It also names the responsible agency or team. This capacity-building is anchored in Output 1.2 and is reinforced for each output through sector-specific technical training from the relevant line ministry or provincial department. This ensures that implementation, monitoring, and O&M actors are equipped to meet the standards required.

Table 18 *Compliance with national technical standards, rules, regulations and procedures, and ESP principles*

Output	AF ESP [71]	Relevant Rules, Regulations, Standards and Procedures	Compliance procedure and authorising offices	Training, tools, and technical assistance (delivered by)
1.1 Participatory socio-economic and climate-risk assessments, covering local safety, tourism	9, 10, 11, 15	CCCSP; National Ecotourism Standard; Protected Area Law (2008)	Assessment survey will be cleared by MoE; forest protection communities and sub-national authorities oversee local implementation.	Training on participatory assessment tools, hazard mapping, and survey protocols, delivered by the Executing Entity's technical team under Output 1.2; forest protection

[71] AF ESP - 1. Compliance with Law; 2. Access and Equity; 3. Marginalised and Vulnerable Groups; 4. Human Rights; 5. Gender Equality and Women's Empowerment; 6. Core Labour Rights; 7. Indigenous Peoples; 8. Involuntary Resettlement; 9. Protection of Natural Habitats; 10. Conservation of Biological Diversity; 11. Climate Change; 12. Pollution Prevention and Resource Efficiency; 13. Public Health; 14. Physical and Cultural Heritage; and 15. Lands and Soil Conservation

pressures, and NbS options.				communities and CDCs trained as co-assessors and data collectors.
1.2 Capacity-building on climate-resilient planning, disaster readiness, green tourism, and climate-smart agriculture.	2, 3, 5, 7, 9, 10, 15	CCCSP-Decree 219; DRM Law (2015)	The training curriculum will be reviewed by MoE; forest protection communities will be trained as trainees.	This output is itself the project's core capacity-building activity: a Training-of-Trainers curriculum reviewed by MoE and delivered by the Executing Entity together with provincial technical departments (MAFF extension agents, MOWRAM, tourism authorities) to CDCs, Commune Councils, and forest protection communities.
1.3 Community Action Plans, climate risk profiles, and green/safe tourism opportunity maps.	1, 2, 3, 5, 7, 9, 10, 11, 14, 15	Law on Local Governance; CCCSP (2024–2033); Sub-Decree 219; DRM Law (2015)	Content co-developed with Ministry of Interior and MOWRAM; risk mapping validated by District DRM Committees; Commune structures integrate outputs into CDPs/CIPs.	Training on climate-informed CIP/CDP/DDP planning procedures and risk-mapping methods, delivered by Ministry of Interior and MOWRAM with Executing Entity facilitation, targeting Commune Council planning committees and CDCs.
1.4 Community Implementation Agreements (CIA) preparation, formalization, and fund disbursement.	1, 2, 3, 5, 7, 9, 10, 11, 14, 15	Law on Local Governance; CCCSP (2024–2033); Sub-Decree 219; DRM Law (2015)	Community Implementation Agreements are cleared by MoE, with forest protection communities and Community Development Councils controlling prioritization and decision-making.	Training on Community Implementation Agreement (CIA) preparation, basic fiduciary and procurement procedures, and CAP documentation standards, delivered by the Executing Entity under Output 1.2, targeting CDCs and Forest Protection Committees.
2.1 Pilots on climate-smart farming and value-addition supported by market analysis.	2, 3, 5, 7, 9, 11	Cambodia Climate Change Priority Action Plan (2023–30); AG-Extension Policy; MAFF market guidelines; Extension Service Standards; Water Resource Law (when irrigation included)	Assessment tools approved by Provincial Ag Office; findings inform local market plans; training by certified MAFF extension agents; demonstration linked to MOWRAM safety standards where pumps are installed.	Technical training and on-site mentoring on climate-smart agriculture techniques and MAFF market-guideline compliance, delivered by certified MAFF extension agents, targeting participating farmer groups.
2.2 Regional nursery support for community reforestation and natural regeneration.	9, 10, 11, 13	Protected Area Law; Forest Code; Biodiversity Strategy; REDD+ Guidelines	Reforestation plan approved by FA & GDANCP; species from local seed bank; forest protection community's co-manage planting	Training on native-species propagation and compliance with reforestation-plan requirements under the Protected Area Law, Forest Code, and REDD+ Guidelines, delivered by the Forestry Administration and GDANCP, targeting nursery operators and forest protection communities.
2.3 Ecological and tourism value improvement of reservoir site.	2, 3, 5, 7, 9, 11	Water infrastructure standards (Water Resource Law, MOWRAM), heritage protection frameworks (Royal Decree 1994, Protected Areas Law 2008), and eco-tourism standards.	Plots registered via Commune extension office in cooperation with MOWRAM and MOTR	Training on MOWRAM water-infrastructure technical standards and on heritage-zone compliance procedures for work within Angkor protected areas, delivered by MOWRAM and the APSARA Authority, targeting Community Maintenance Committees and CPA committees.
2.4. Water retention improved through sediment clearance, water gates, and embankment stabilization	1, 2, 6, 9, 11	Water Resource Law; Commune technical standards	Designs reviewed by MOWRAM; built with Commune labour and monitored; reservoir use governed by local Water Committee	On-the-job engineering-supervision training and O&M protocol training for construction and maintenance tasks, delivered by MOWRAM-certified engineers/technical supervisors, targeting Water Committee members and community construction teams.
2.5. Eco-village establishment or upgrades using circular systems	1, 2, 3, 9, 10, 11	National Green Growth Roadmap	Design and structure reviewed/agreed by MoE; build with forest protection communities; community-led establishment and management.	Training on circular-system design and operation under the National Green Growth Roadmap and on Universal Design/accessibility requirements, delivered by MoE and UN-Habitat technical advisors, targeting eco-village management groups and forest protection communities.
2.6. Flood-resilient nature-based sewerage and wastewater systems.	1, 2, 4, 6, 9, 11	Water Resource Law; MOWRAM safety engineering standards; DRM Law	Engineering review by MOWRAM; maintenance protocols built into Commune CDPs/CIPs; seasonal monitoring with CPA/TB	Technical training on MOWRAM safety-engineering standards and on maintenance-protocol compliance for nature-based/hybrid sewerage systems, delivered by MOWRAM-certified engineers, targeting CPA and Technical Brigade (TB) members responsible for seasonal monitoring.

2.7. Community early warning systems installed and supported by local training."	9, 10, 11 and 14	CCSP, Updated NDC	Equipment reviewed by MOWRAM; maintenance protocols built into Commune CDPs/CIPs; seasonal monitoring with CPA/TB	Equipment operation and maintenance-protocol training for early warning systems, delivered by MOWRAM technical staff, targeting CPA/TB members and Commune Council DRM focal points.
2.8. Training and systems for improved waste segregation, composting, and recycling.	9, 12	Sub-decree on Urban Solid Waste Management Sub-decree on Plastic Bags Management	Community-led SWM activities will be prioritized and led by forest protection communities; forest protection communities will be trained as trainees.	Technical training on solid-waste segregation, composting, pilot of community-led SWM campaign and compliance with the Sub-Decrees on Urban Solid Waste and Plastic Bag Management, delivered by MoE and provincial environment officials, targeting community-led SWM groups and forest protection communities.
3.1 Partner and community coordination through meetings, study visits, and capacity-sharing workshops.	1, 2, 3, 5, 9, 10, 11, 13	Gender Action Plan; Environment Strategy (2023–33); CCCSP	Coordination meetings, study visits, and workshop events approved by Provincial Planning Dept; gender targets monitored; inclusion in sub-national plans documented	Facilitation-skills and coordination-protocol training, delivered by the Executing Entity and Provincial Planning Department, targeting CDC representatives and Commune Council members who participate in coordination platforms.
3.2 Policy briefs and recommendations	1, 2	CCCSP	Evidence-based policy briefs and recommendations co-developed with relevant stakeholders	Training on evidence packaging and policy-engagement procedures, delivered by the Executing Entity and MoE policy staff, targeting CDC and Commune Council representatives who contribute evidence to policy briefs.
3.3 Multilingual knowledge materials for non-literate groups	1, 2, 3, 7	Communication Recommendations; Gender & Inclusion Resolutions; MoE communication standards	Materials co-developed with local translators; peer-reviewed with forest protection communities; distributed via Commune & partner media	Training on community-based translation and facilitation methods and on MoE communication standards, delivered by the Executing Entity with local translators, targeting community facilitators who produce and disseminate materials in forest protection communities.

F. Duplication with other funding sources

A review of ongoing programs and consultations with national and provincial stakeholders found no similar initiatives in Krong Siem Reap, Banteay Srei, or Svay Leu districts. Specifically, no projects focus on integrated community-led nature-based solutions, eco-tourism-based adaptation, ecosystem restoration, or community-based water and infrastructure resilience. Preliminary assessments, including desk reviews, project registry screenings, and stakeholder consultations, found no adaptation programmes addressing climate-resilient livelihood diversification, ecosystem-based adaptation, or sub-national governance improvement in these districts. Drawing on information from the Ministry of Environment, the project reviewed potential overlaps and complementarity with nine ongoing and completed projects (Table 19), ensuring strategic alignment, added value, and coherence with existing interventions. The project directly addresses identified gaps in locally led adaptation and ecosystem resilience.

Cambodia has received substantial adaptation financing from the Green Climate Fund (GCF), the Global Environment Facility (GEF), IFAD, and bilateral agencies, primarily targeting lowland rice areas and the Cardamom Mountains-Tonle Sap landscape. UNDP's GEF-funded project, Oxfam's CREFA Project, and IFAD's ASPIRE programme all focus on climate-resilient livelihoods in provincial farmland but do not reach forested mountain ecosystems or heritage-protected communities inside Angkor Archaeological Park.

Lessons from previous Adaptation Fund–financed projects have informed this proposal's design: "Climate Change Adaptation through Small-Scale and Protective Infrastructure Interventions" (2021–2025, Kep and Preah Sihanouk) and the AF–UN-Habitat project (2024–2028, Kampot and Koh Kong) demonstrated effective approaches to community-based climate-resilient infrastructure, ecosystem restoration, and participatory implementation, adapted to inform the proposed intervention. Unlike these projects, however, this proposal uniquely addresses upland forested ecosystems and eco-tourism corridors, filling a gap by tailoring proven Adaptation Fund investments to mountainous terrain and forest-dependent and Indigenous communities, a context-specific, locally led solution responding to the target upland area's distinct climate risks and vulnerabilities.

Table 19 *Summary of ongoing/pipeline projects*

Project Name	Description	Reference	Potential Synergy
Local Governments and Climate Change III (LGCC-3)	GCF-funded project, which aims to integrate climate change adaptation into local development planning and finance, supporting Cambodia's national climate goals and SDGs across Battambang, Pursat, and Preah Vihear.	https://www.greenclimate.fund/project/sap058	**Outputs 1.2-1.4** The capacity-building activities of the proposed project can learn from the approaches to integrate climate change adaptation into local plans.
Additional Financing for the Cambodia	GEF-funded project, which aims to improve protected areas management, and to promote	https://www.thegef.org/projects-	**Output 1.2, 1.3, 1.4 and Component 2**

Sustainable Landscape and Ecotourism Project	ecotourism opportunities and non-timber forest product value chains in the Cardamom Mountains-Tonle Sap landscape.	operations/projects/10483	The proposed project can learn approaches and good practices to improve protected areas management while promoting ecotourism opportunities in heritage-protected areas.
Promoting Climate-Resilient Livelihoods in Rice-Based Communities in the Tonle Sap Region	FAO's GEF-funded project, whose objective is to help rice-based communities in the Tonle Sap region of Cambodia reduce their climate vulnerability and increase their resilience to climate change through an ecosystem-based, market-driven approach.	https://www.thegef.org/projects-operations/projects/10177	**Component 1 and Output 2.1** The proposed project is able to consider this project site as one of the study visit options to learn successful climate-resilient farming practices.
Aspire Agricultural Services for Resilience (ASPIRE-AT)	EU funds and IFAD co-financing project that aims to make smallholder farmers and rural workers benefit from inclusive and sustainable agriculture sector growth, based on exports and domestic markets	https://www.eib.org/en/projects/all/20210682	**Output 2.1** The localization of successful interventions to improve agricultural productivity through enabling market infrastructure for producer organisations and strengthening the enabling environment for competitive agricultural value chains,
Building climate resilience of communities in Cambodia's protected landscapes: biodiversity-friendly crop-livestock systems for adaptation	FAO's GEF-funded projects, which aim to enhance the climate resilience of local communities, ecosystems, and livelihoods in Cambodia's protected landscapes while aligning with biodiversity conservation goals.	https://openknowledge.fao.org/items/4c4e2a2b-8874-42bc-acf3-8fe299f52c68	**Component 2** The project lessons can be reflected in the proposed project's approach and designs, especially livelihood diversification and ecosystem conservation.
Restoring ecosystems for sustainable development in the Tonle Sap Basin and Siem Reap/Phnom Kulen landscape.	UNDP's GEF-funded projects, which aim to promote sustainable land and water management — foundational nature-based solutions that help stabilize ecosystems that local communities depend on for fisheries, agriculture, and services.	https://www.thegef.org/projects-operations/projects/11119	**Component 2** Lessons learned from the project could be systematically integrated into the proposed project's design and implementation approach to improve degraded watershed systems.
Building Resilient Livelihoods through Nature-based Solutions in the Tonle Sap Basin and Siem Reap/Phnom Kulen Landscape	UNDP's GEF-funded projects, which aim to strengthen local livelihood systems and climate-resilience capacity. It also emphasizes water resource management, market linkage development, and innovative financing (e.g., payments for ecosystem services)	https://www.thegef.org/projects-operations/projects/11332	**Outputs 2.1, 2.3, 2.4** The project's lessons on nature-based solutions to strengthen local livelihood systems and water resource management should be integrated into the proposed project's activities.
Climate Resilience for All (CREFA) Project	With the financial support of the Embassy of Ireland, Oxfam and a consortium of nine organisations have been implementing the project, whose objective is to strengthen local climate resilience capacity, community forestry/forest protection mechanisms, and adaptive livelihood support — particularly through inclusive, gender-sensitive activities, community planning, and policy engagement.	https://cambodia.oxfam.org/latest/stories/oxfam-launch-new-climate-resilience-project-0?utm	**Component 1 and Output 2.1** The proposed project is able to learn good practices and lessons learned on inclusive and gender-sensitive activity designs and community planning processes. Policy engagement should also be reviewed before the policy brief preparation to avoid duplication.
Increasing Climate Resilience Through Small-Scale Infrastructure Investments and Enhancing Adaptive Capacity of Vulnerable Communities in Kampot and Koh Kong Provinces in Cambodia	Adaptation Fund-financed project implemented by UN-Habitat (2024-2028) in coastal Kampot and Koh Kong provinces, addressing coastal flooding and climate vulnerability through small-scale, community-built infrastructure and adaptive-capacity strengthening.	Adaptation Fund project database (project reference to be confirmed and cited at full proposal stage)	No geographic or beneficiary overlap (coastal vs. upland heritage-protected districts). As the same Implementing/Executing Entity partnership, this project is the closest institutional precedent: its community contracting/CIA modality, GRM design, and ESP screening approach directly inform this proposal's design, and implementation lessons continue to be shared via UN-Habitat's Community of Practice and this project's Steering Committee.

This proposal builds on the Adaptation Fund/UN-Habitat project "Increasing Climate Resilience Through Small-Scale Infrastructure Investments and Enhancing Adaptive Capacity of Vulnerable Communities in Kampot and Koh Kong Provinces in Cambodia" (2024–2028). As both projects share the same Implementing and Executing Entity partnership, this prior project serves as the closest institutional precedent and informs this proposal in three key areas: community contracting and Community Implementation Agreement modality (adapted for Component 2 delivery), grievance redress mechanism design (informing this proposal's GRM under Section E), and ESP screening for small-scale infrastructure (informing the structured risk assessment). Duplication is avoided by targeting different geographies and ecosystem types: the Kampot/Koh Kong project focuses on coastal

flooding and infrastructure vulnerability in lowland provinces, while this proposal addresses forest and watershed degradation, upland drought and rainfall variability, and heritage-site pressures in Siem Reap's upland, forested, heritage-protected districts, with no overlapping target communities. Institutional complementarity is ensured by reviewing and sharing lessons from the Kampot/Koh Kong project's implementation and evaluation with this project's Steering Committee and Component 3 knowledge management activities through UN-Habitat's Community of Practice (Section G).

Stakeholder mapping by MoE and UN-Habitat indicates that, based on current information, no major donor-funded climate adaptation or resilience programmes are active in heritage-protected areas of Siem Reap Province, including those supported by ADB, GEF, GCF, or the World Bank.

In summary, this intervention demonstrates strong additionality by addressing key geographic and thematic gaps. It delivers catalytic value through community-led climate governance, climate-resilient and nature-based livelihood solutions, and targeted ecosystem rehabilitation in highly vulnerable, historically under-resourced upland protected areas. This extends adaptation investment to landscapes not currently prioritized by existing programmes.

Distinguishing this proposal from other upland-landscape projects

Table 19 lists two GEF/UNDP-financed projects in the Siem Reap/Phnom Kulen landscape: "Restoring ecosystems for sustainable development in the Tonle Sap Basin and Siem Reap/Phnom Kulen landscape" and "Building Resilient Livelihoods through Nature-based Solutions in the Tonle Sap Basin and Siem Reap/Phnom Kulen Landscape." The Secretariat correctly noted that these projects could resemble this proposal's interventions in ecosystem restoration, climate-smart agriculture, and water management. However, three distinctions apply. First, geographic scope: both GEF/UNDP projects operate basin-wide across the Tonle Sap landscape, while this proposal targets only three districts, Krong Siem Reap, Banteay Srei, and Svay Leu, and within them, five poor settlements and five forest protection communities identified through Component 1. Second, modality: this proposal uses UN-Habitat's People's Process and Locally Led Adaptation approach, giving communities defined authority over prioritisation, design input, and fund management (per decision-authority matrix), unlike the more centrally executed GEF/UNDP model. Third, heritage-area focus: this is the only project designed around the regulatory and institutional requirements for operating within and adjacent to Angkor Archaeological Park, including coordination with the APSARA Authority. This proposal treats the two GEF/UNDP projects as sources of lessons, particularly on degraded watershed restoration, rather than as parallel or overlapping investments.

Institutionalising coordination and avoiding duplication

In addition to the desk review and stakeholder consultations, duplication avoidance and complementarity are ensured through three ongoing mechanisms that continue throughout implementation. First, the project will register with MoE and coordinate through Cambodia's Technical Working Group on Climate Change (TWG-CC), which tracks climate and adaptation investments, including those in Table 19. This provides a channel to identify and resolve any emerging overlap with other donor-financed activities in the target districts. Second, the Project Steering Committee (MoE, provincial hall, and line-ministry representatives, Criterion 3 decision-authority matrix) will include a standing agenda item to review complementarity with other adaptation-financed projects, specifically the Kampot/Koh Kong project and the Table 19 GEF/UNDP projects. Third, compliance and capacity-building arrangements are integrated with MOWRAM, MAFF, the Forestry Administration/GDANCP, and MoE, rather than using parallel project-specific systems. This ensures sectoral good practice and technical review are aligned with each ministry's broader work, including engagement with the other Table 19 projects.

G. The learning and knowledge management component

The project prioritises knowledge management and institutional learning to ensure sustained impact, scalability, and value for investment in locally led climate adaptation. Component 3 systematically captures, shares, and applies insights from community-driven interventions, using gender-disaggregated data and participatory monitoring to guide replication and inform evidence-based policy. This approach builds on successful practices from previous Adaptation Fund projects in Cambodia and lessons from the final evaluation of UN-Habitat's Adaptation Fund project (2021–2025).

Key outcomes include customised knowledge products—such as policy briefs, toolkits, case studies, training materials, and stories of change—tailored for audiences from local communities to national policymakers. Dissemination will occur through workshops, digital platforms, technical forums, and UN-Habitat's Community of Practice. The project will demonstrate a scalable adaptation model for heritage-protected areas, supporting evidence-based replication by sub-national authorities, APSARA, and national planning bodies. Sustainable scaling will be pursued through alignment with public budgets, tourism strategies, and development partnerships. Output 3.3 delivers inclusive, culturally relevant knowledge products on local and global platforms, while Output 3.2 provides actionable policy briefs for integration into planning frameworks.

Capacity development at provincial, district, commune, and community levels will strengthen participatory planning, inclusive engagement, and technical skills for climate-smart agriculture, green tourism, and nature-based infrastructure operations and maintenance. This will improve local planning, increase community participation—including women and youth—in monitoring and evaluation, and enhance technical capacity for sustainable livelihoods. A participatory monitoring, evaluation, and learning system will enable adaptive management, helping communities track progress, identify challenges, and reinforce accountability and ownership.

1. Knowledge Generation and Adaptive Learning
Knowledge generation will be integrated across all components through participatory socio-economic and climate vulnerability assessments, outcome and impact evaluations, analysis of pre- and post-intervention climate-related costs and avoided losses at the household level, and assessment of co-benefits from nature-based solutions such as ecosystem restoration and renewable energy. Climate risk and cost–benefit considerations will be incorporated into Commune Investment Plans and forest protection plans. Local and traditional knowledge will be documented and validated using participatory tools, including hazard mapping, seasonal calendars, community records, and audiovisual materials. Systematic feedback mechanisms will update CAPs, CIPs, and local development plans based on implementation lessons. Findings will be consolidated into a dynamic knowledge base, providing donors with transparent records of environmental impacts, economic benefits and costs, institutional changes, and social equity outcomes to support adaptive management and evidence-based scaling.

The knowledge base will be hosted on a project platform maintained by the Executing Entity, mirrored on the Ministry of Environment's departmental portal, and linked to UN-Habitat's global Community of Practice (K4C), ensuring it is accessible beyond donors. Community-focused content, case studies, toolkits, and CAP/CIP updates will be available in Khmer and in low-bandwidth formats, such as downloadable PDFs and printed materials distributed through Commune Councils and CPA committees, and displayed at public facilities. This ensures access does not depend on reliable internet connectivity. Upon project closure, custodianship will transfer to the Ministry of Environment, with continued public hosting arrangements confirmed at the full proposal stage, so the knowledge base remains available after the project ends.

2. Local to National Knowledge Exchange Platforms
The project will facilitate structured knowledge exchange through community reflection workshops to strengthen local learning and feedback; peer-to-peer exchanges across target districts (Krong Siem Reap, Banteay Srei, Svay Leu, including study visits and joint learning; and provincial and national dialogues with key institutions (MoE, MoWRAM, NCDD) to inform policy and scaling. Project staff will document all knowledge using gender-disaggregated data to ensure inclusive and equitable learning outcomes.

3. Knowledge Products and Dissemination
The project will produce case studies on community-led adaptation and nature-based solutions; toolkits, manuals, and technical briefs on climate-resilient practices and ecotourism; participatory media such as videos, testimonials, and infographics for outreach and advocacy; and documented stories of change that capture qualitative impacts and community experiences. Contributions will also be made to national and global knowledge platforms, including CamClimate, UN-Habitat K4C, and MoE portals. Dissemination will engage all stakeholder groups through local media, schools, community networks, and digital platforms to ensure accessible communication and meaningful inclusion for non-literate and marginalised populations. The knowledge products generated will also enhance national monitoring and evaluation systems, supporting data-driven decision-making.

4. Contribution to Global Learning
The project will contribute to international platforms, including the Adaptation Fund Community of Practice, APAN, PANORAMA, and global case-study and lessons-learned repositories, with key contributions on hidden climate cost burdens in forest-dependent communities, integration of ecosystem-based and engineered adaptation, and the role of community governance in sustaining outcomes.

5. Communication and Outreach Strategy
The project team will develop a Communication and Outreach Plan during inception, defining target audiences, key messages, and dissemination channels. Knowledge products will be generated continuously for capacity-building and outreach through community-level tools such as radio programmes, leaflets, and posters; digital and social media platforms like Facebook and Telegram for real-time sharing of progress, lessons, and results, particularly targeting youth, practitioners, and national audiences; policy briefs, technical notes, and case studies to support policy dialogue; national and international knowledge platforms including the Adaptation Fund, MoE, and UN-Habitat; and partnerships with universities and research institutions for applied research and long-term learning.

6. Institutionalising and Sustaining Knowledge Management
Knowledge management is institutionalized through defined custodianship, ensuring it does not rely solely on project-funded staff. The Ministry of Environment will assume custodianship of the knowledge base at project closure, and Component 3's knowledge products are designed for integration into the Ministry's existing planning and reporting cycles, rather than as a stand-alone project archive. The project will also pursue structured partnerships with Cambodian knowledge institutions, particularly the Royal University of Phnom Penh and the Royal University of Agriculture, both of which have environmental and natural-resource-management faculties, as well as national platforms such as CamClimate. These partnerships will support applied research, provide independent validation of project evidence, and ensure the project's knowledge products have an institutional home beyond the project period. Specific partnership agreements will be confirmed and formalized at the full proposal stage.

7. Managing Traditional and Indigenous Knowledge
Because the project focuses on forest-dependent and heritage-adjacent communities, traditional and Indigenous knowledge is treated as a distinct knowledge stream with its own identification, protection, and integration protocol. Identification occurs during Output 1.1 climate-risk and socio-economic assessments, where CDCs and Forest Protection Committees collaborate with community elders and knowledge-holders to document traditional ecological practices relevant to adaptation, fire management,

seasonal forest resource use, and traditional water harvesting, using participatory tools such as seasonal calendars and **oral history** recording. Traditional knowledge documented under Output 1.1 is reviewed and confirmed by the originating CDC or Forest Protection Committee before inclusion in any knowledge product or policy brief, ensuring external use requires community endorsement. Although Indigenous Peoples were not identified at the concept note stage, where they are confirmed present, the same consent and attribution standards apply to Indigenous knowledge, with documentation practices adapted in consultation with the communities concerned.

8. Approaches to Two-Way Knowledge Exchange
In addition to broadcast-oriented digital and social media channels, the project will use digital tools designed for two-way exchange. Field teams and CDCs will use a mobile data-collection application, such as KoBoToolbox or an equivalent, for participatory monitoring and CAP/CIP review data, allowing community-reported information to feed directly into the knowledge base without separate transcription. An SMS or messaging-app-based query channel will enable CDCs and Commune Councils to raise technical questions directly with the Executing Entity's technical team and receive documented responses. This channel is distinct from the GRM and is intended for technical learning exchange rather than complaints. Where digital access is limited, these functions will be supported through existing community meeting structures, so two-way exchange does not depend on individual smartphone ownership.

9. Sustaining the CAP/CIP Feedback Loop
The systematic feedback mechanism for updating CAPs, CIPs, and local development plans will continue beyond the project period, following the same institutional cycle described under "Institutionalising CIP/DDP updates" and the "Operationalising CDP/CIP/DDP integration" table in Component 1. This is repeated here to clarify management and its function as a learning mechanism. CDC-led review meetings, held at least annually, will assess implementation progress, reprioritise investments as needed, and revalidate CAPs through community assemblies and Commune/Sangkat Council endorsement, following the annual review step (Step 7) in Table 13. Since CAPs and CIPs are adopted as standing commune planning instruments rather than parallel project documents, this feedback loop will continue within the government's annual planning cycle after the project ends, without requiring continued Adaptation Fund financing. Through this structured, iterative approach, the project aims to increase institutional knowledge, enable broader adoption of proven adaptation practices, and ensure investments yield long-term, data-driven impacts, with more knowledge products, higher exchange frequency, and more effective integration of lessons into planning and policy processes.

H. Stakeholder Consultations

The proposed project was developed through an inclusive, iterative consultation process led by the Ministry of Environment (MoE) with technical support from UN-Habitat. These consultations guided the selection of priority adaptation investments, such as water retention, ecosystem restoration, and eco-tourism-based livelihood diversification. The process engaged stakeholders at national, sub-national, and local levels, including government officials, technical experts, and forest management community representatives from the target districts. MoE ensured alignment with Cambodia's national adaptation priorities and climate resilience agenda from the outset.

Initial consultations took place from mid-June 2025 to mid-May 2026 (Annexes 1 and 2). Activities included joint field visits, separate meetings, and focused discussions with district and commune leaders and forest community representatives. The process deliberately included vulnerable groups, such as women-led households, Indigenous and forest-dependent people, and low-income families.

At the local level, structured consultations with district and commune authorities and forest-protection community representatives assessed climate and socio-economic vulnerabilities, identified priority sectors and infrastructure needs, and validated climate risks such as drought, heat stress, erratic rainfall, and environmental degradation. These consultations also identified locally led adaptation options, including nature-based solutions, and prioritized urgent needs. Community-driven implementation approaches, sustainability mechanisms, and institutional capacity were also explored. UN-Habitat has built strong relationships with provincial and district administrations and will maintain ongoing dialogue and coordination throughout the project.

Consultations revealed that climate risks affect men and women differently. Women are more impacted due to greater responsibilities in water collection, family care, and food production, as well as limited access to land, decision-making, training, and climate information. Floods and droughts further harm women's health and nutrition, especially where language barriers, limited participation in local groups, and loss of traditional knowledge increase vulnerability. These findings have directly informed the project's gender-responsive design.

Building on these insights and following the Leaving No One Behind (LNOB) principle, the project will ensure women, youth, and other vulnerable groups are actively involved in setting adaptation priorities and benefit equitably from project activities. This includes supporting women's participation in planning, implementation, and monitoring; their inclusion in new income opportunities and climate-friendly farming training; improved access to water, sanitation, and tourism facilities; and strengthened leadership and representation in local governance, especially within forest protection communities. Forest protection communities and sub-national authorities will receive support to meet gender participation targets, as outlined in the gender action plan to be developed during full proposal preparation.

During full proposal preparation, additional consultations will be held with sub-national stakeholders to strengthen local ownership and align with evolving priorities. Engagements with the Ministry of Women's Affairs and gender-focused civil society organisations will ensure integration of gender equality and social inclusion. Consultations with local tourism operators and tour guide associations will identify opportunities to integrate project sites into eco-tourism circuits and inform climate-resilient, community-led eco-tourism design.

Table 20 *Overview of Stakeholder Consultations*

Location	Participants	Date	Topic(s) discussed	Participants
Provincial Department of Environment, Siem Reap Province	Representatives from Ministry of Environment, Provincial Department of Environment, and UN-Habitat	16 June 2025	Consultation on existing challenges and needs of communities in Siem Reap Province, and the preparation of the community meetings, site investigation, and data collection	9 (female – 2)
Siem Reap City Hall and Proposed Site, Siem Reap Province	Representatives from Siem Reap City, Sangkats in Siem Reap City, Ministry of Environment, and UN-Habitat	17-18 June 2025	Consultation on existing challenges and needs, and existing initiatives of Sangkats in Siem Reap Province	14 (female – 3)
Banteay Srei District Hall and sites, Siem Reap Province	Representatives from District administration, Communes, Villages, Ministry of Environment, and UN-Habitat	17 June 2025	Consultation on existing challenges and needs, and existing initiatives of Banteay Srei district	15 (female – 2)
Five Communities in Kulen Protected Area, Svay Leu district, Siem Reap Province	Representatives from Communes, Communities, Provincial Department of Environment, Ministry of Environment, and UN-Habitat	19 June 2025	Consultation on existing challenges and needs, and existing initiatives of Svay Leu district	14 (female – 2)
Proposed sites in Krong Siem Reap, Banteay Srei, and Svay Leu districts	Representatives from Communities and UN-Habitat	29-30 October 2025	Site observation and confirmation of the proposed activities, scale, and possible impacts.	5 (female – 1)
Provincial Hall	Representatives from Siem Reap Province and UN-Habitat	06 May 2026	Consultation on proposed outcomes, outputs in Siem Reap Province, including project gender responsive measures	4 (female – 1)
APSARA Authority Office	Representatives from APSARA Authority and UN-Habitat	06 May 2026	Consultation on feasibility to intervene the small-scale infrastructure improvement in APSARA area such as output 2.6 and future engagement.	5 (female – 2)
Siem Reap City Hall	Representatives from Siem Reap City, Svay Leu Districts, Banteay Srei Districts, Relevant Communes/ Sangkats, and UN-Habitat	06 May 2026	Consultation on proposed outcomes, outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender responsive measures.	18 (female- 7)
Siem Reap Provincial Hall	Representatives from Ministry of Environment, Provincial administration, Relevant provincial departments, City and districts, Communes and Sangkats, Academia, Non-governmental organizations, Civil societies, Private sector, and UN-Habitat	18 May 2026	Consultation on proposed outcomes, outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender responsive measures and eco-tourism.	38 (female – 8)
Target communities	Representatives from Commune/Sangkat, Villages and communities	19 May 2026	Verification of specific measurable indicators for relevant outputs and gender assessment	25 (female -10)

Consultation participation was disaggregated by community and institutional involvement. Of the 10 stakeholder consultation sessions summarized in Table 20, three directly engaged community members: the 19 June 2025 session with five communities in the Kulen Protected Area of Svay Leu district; the 29–30 October 2025 site visits confirming proposed activities and scale with communities in Krong Siem Reap, Banteay Srei, and Svay Leu districts; and the 19 May 2026 session verifying measurable indicators with target communities. Table 21 distinguishes these from the remaining seven sessions, which primarily involved national and sub-national government representatives (MoE, provincial and district administrations, Commune/Sangkat officials), APSARA Authority, academia, civil society, and the private sector.

Table 21 *Community versus institutional/multi-stakeholder consultation participation*

Consultation category	Sessions (Table 14)	Total participants	Of whom women	% women
Community-focused sessions (19 June 2025 Kulen Protected Area communities; 19 May 2026 target-community indicator verification)	3	39	12	30%

Sub-national/national government, technical, academic, and multi-stakeholder sessions	7	103	25	24%
All Table 14 sessions	10	147	38	26%

Table 21 disaggregates participation by sex but not by other relevant dimensions, such as disability, IDPoor, or poverty status. This will be addressed in future consultations: during full proposal development, attendance records will tag each participant's stakeholder category (community member, sub-national government, national government, academia/CSO/private sector) along with sex, age, and disability status. This approach will ensure precise future reporting.

The three community-focused sessions directly influenced project design. The 19 June 2025 consultation in the Kulen Protected Area identified climate risks, resource-access constraints, and livelihood priorities for Svay Leu forest-dependent communities, informing the selection and location of Component 2 interventions, including forest restoration and water retention. The 29–30 October 2025 site visits confirmed the scale and locations of proposed subprojects with the host communities before finalizing activities and budget allocations in this concept note, rather than presenting a fixed design. The 19 May 2026 session verified measurable indicators with target communities, ensuring the results framework reflects community-validated definitions of success.

The Secretariat's concern regarding Women's CSO engagement is acknowledged. At the concept stage, engagement with Women's CSOs and the Ministry of Women's Affairs has not yet occurred. The interim gender analysis is based on the initial assessment in Annex 3 and sex-disaggregated data in Table 20. To address this, engagement with the Ministry of Women's Affairs and gender-focused civil society organisations will be scheduled at the start of full proposal development to directly inform the gender action plan, rather than as a validation step after drafting.

I. Justification for funding requested

The requested Adaptation Fund financing is essential to cover the additional costs of priority adaptation measures that reduce climate risks for vulnerable communities in the heritage-protected areas of Krong Siem Reap, Banteay Srei, and Svay Leu. These areas are home to predominantly forest-dependent and economically marginalized groups facing increasing climate-related stresses, such as prolonged droughts, heightened forest fire risk, ecosystem degradation, and climate-induced livelihood disruption. The project aligns with national and sub-national development priorities, community-identified needs, and the Adaptation Fund's strategic objectives. It delivers an integrated approach to strengthen climate resilience, livelihoods, ecosystems, and institutional capacity. Without external support, these communities lack the institutional capacity, financial resources, and technical expertise to plan, finance, and implement locally led adaptation measures beyond basic coping strategies.

Current investments in the target districts focus on basic service delivery and limited infrastructure, without systematic integration of climate risk. Local budgets are constrained and prioritize routine development, limiting support for ecosystem restoration or risk-informed projects. As a result, adaptation responses are fragmented and reactive, and do not adequately address increasing climate and ecosystem challenges.

Climate change brings risks, uncertainties, and design requirements that exceed current development capacity. More frequent droughts, erratic rainfall, forest fire risk, and ecosystem degradation require higher design standards, nature-based restoration, climate-resilient infrastructure, early warning systems, and inclusive governance. These needs impose additional costs for risk-informed planning, technical design, long-term maintenance, and institutional capacity, which are not covered by existing public financing or development programs.

Tourism-related interventions are included as adaptation measures because climate change increasingly threatens the ecological systems and livelihoods that tourism relies on. Climate hazards such as extreme heat, erosion, flooding, drought, and ecosystem degradation reduce visitor access, damage tourism infrastructure, and threaten community income. Nature-based tourism investments, including watershed restoration, eco-trail stabilization, climate-resilient drainage, wastewater treatment, and ecosystem rehabilitation, help reduce climate vulnerability, diversify household income, and strengthen resilience.

Table 22 below demonstrates that each climate hazard referenced in this section, including extreme heat, is addressed by specific proposed measures rather than being cited only as contextual risk.

Table 22 *Climate hazards referenced in this section and the measures that address them*

Climate hazard referenced above	Proposed measures that address it
Extreme heat	Outputs 2.2-2.3 (forest and watershed restoration, restoring the cooling function of forest cover); Output 2.7 (community-based early warning and awareness for heat stress); see 'Heatwaves' hazard analysis above
Erosion	Outputs 2.2-2.3 (reforestation, slope-stabilising eco-trail design and reservoir-site rehabilitation)
Flooding	Outputs 2.4 and 2.6 (water retention, embankment stabilisation, flood-resilient nature-based sewerage); Output 2.7 (community early warning systems)
Drought	Outputs 2.1, 2.2, and 2.4 (climate-smart agriculture, forest/watershed restoration, water retention and sediment clearance)
Ecosystem degradation	Outputs 2.2-2.3 (forest and reservoir-site restoration); Component 1 (climate risk and NbS prioritisation through Community Action Planning)

Existing government financing mainly supports conventional development priorities and routine service provision, with limited funding for ecosystem restoration, climate risk-informed design, community-managed adaptation systems, or locally led implementation approaches.

Adaptation Fund resources cover the additional costs of transforming standard development investments into climate-resilient systems. This includes climate risk-informed planning (Component 1); ecosystem restoration and nature-based infrastructure (Component 2); climate-resilient design, early warning systems, and community-led delivery through Community Implementation Agreements; and safeguards and knowledge systems (Component 3). These measures enhance durability, inclusiveness, and sustainability.

Under the baseline scenario, adaptation efforts remain under-resourced and fragmented. Most communes lack climate-informed plans, and climate risks are not systematically integrated into development or budgeting. Forest protection groups face capacity and funding constraints that limit forest restoration, monitoring of illegal activities, disaster-risk management, and implementation of nature-based solutions. Infrastructure is not climate-resilient, leaving communities exposed to erratic rainfall, water scarcity, flooding, and heat. Livelihoods remain climate-sensitive, relying on rain-fed agriculture, unsustainable resources, and informal work. These vulnerabilities are compounded by poverty, limited access to climate information and technology, weak disaster preparedness, and the exclusion of women and youth from decision-making. The project provides a comprehensive adaptation package with four main benefits, each addressing structural vulnerabilities through interconnected approaches: climate-resilient and nature-based infrastructure to reduce disaster risk and strengthen adaptive capacity; ecosystem restoration and protection to enhance water regulation, microclimate buffering, erosion control, and fire risk reduction; inclusive governance and adaptive capacity to strengthen the ability of sub-national authorities and community institutions, including women and youth, to integrate climate risk into planning, budgeting, and disaster preparedness; and livelihood diversification through climate-resilient agriculture, climate-smart enterprises, and value-added NTFP development to reduce climate sensitivity and improve income stability and food security. Institutional integration and sustainability are achieved by embedding adaptation measures in local plans and forest protection community frameworks, with strengthened coordination linking community initiatives to provincial and national systems.

While some initiatives address aspects of disaster risk reduction or conservation, few offer an integrated, nature-based, and community-driven adaptation model at this scale. The Adaptation Fund grant enables a shift from ongoing ecosystem degradation and climate-sensitive livelihoods toward inclusive and resilient development pathways. Communities and sub-national authorities lack the capacity to undertake these investments independently, highlighting the critical additionality of Adaptation Fund support. The project budget prioritizes direct adaptation benefits. Approximately 68.6 percent of total financing is allocated to Component 2, which focuses on tangible investments in infrastructure, ecosystem restoration, and livelihood resilience. Components 1 and 3 strengthen institutional capacity, implementation effectiveness, and long-term sustainability. Together, these form a coherent, cost-effective adaptation package that addresses both immediate risks and systemic vulnerabilities. Cost-effectiveness is further enhanced through co-financing and in-kind contributions, including commune resources, community labour, land, local knowledge, and the use of existing forest-protection community structures. As shown in Table 9, the estimated cost per beneficiary (US$3.83–3,571.43) represents strong value for money given the scale and durability of the benefits.

These co-financing and in-kind contributions are indicative at this concept stage; they are not yet confirmed through signed letters, and their sources are specific: Commune/Sangkat annual budgets (via the CIP/CDP integration pathway), community labour and local materials contributed through the People's Process and Community Implementation Agreements under Component 2, land and site access provided by Community Protected Area and Forest Protection Committees within their existing legal mandate under the Community Forestry Sub-Decree (2003), and local knowledge documented under Output 1.1. Each complements Adaptation Fund financing in a specific way: commune budget co-financing sustains O&M after the project period, community labour reduces contractor mark-up and mobilisation costs, and CPA/Forest Protection Committee land access avoids the cost and safeguard risk of land acquisition entirely. In-kind contributions, particularly unskilled and semi-skilled community labour, also build practical construction skills supporting livelihood diversification and future employment.

The cost-per-beneficiary methodology follows a consistent formula across all outputs in Table 9: the numerator is each output's AF budget allocation, and the denominator is that output's unique direct beneficiaries, individuals receiving training, assets, or services directly, with double-counted overlap removed where the same person benefits from more than one output (e.g. participants trained under Output 1.1 also reached by Output 1.3 are counted once, per Table 9's 'direct beneficiary overlap' column). Indirect beneficiaries are the total population of each output's geographic footprint, drawn from commune-level population data. The wide range (US$3.83–3,571.43) reflects genuine differences in what each output delivers: outputs delivering community-wide infrastructure or early-warning coverage (e.g. Output 2.7) reach tens of thousands of direct beneficiaries per dollar, while outputs delivering small-group specialised training or enabling infrastructure (e.g. Output 2.2's regional nursery) intentionally reach a small direct cohort whose benefits extend further through indirect ecosystem services.

The proposed project delivers transformational benefits that safeguard lives and livelihoods and restore ecosystems in Cambodia's heritage-protected landscapes. These include improved safety, greater livelihood stability, restored ecosystems, increased resilience for vulnerable groups, and a replicable model for climate-resilient, locally led development. Adaptation Fund financing is justified as it overcomes institutional, technical, and financial barriers to deliver this effective adaptation model. Table 23 presents the incremental differences and main outcomes enabled by Adaptation Fund support.

Table 23 *Effect of project outcomes with AF funding compared to no funding (baseline)*

Project Components	Project Outcomes	Baseline (without AF)	Results achieved (with AF)
Component 1: Strengthening the development and investment planning processes at the Commune/Sangkat and district/city levels by embedding climate risk, integrated adaptation solutions, and locally led decision-making into local development planning and capacity-building.	**Outcome 1:** Sub-national development and investment planning processes (Commune/Sangkat and District levels) are climate-informed and demonstrate enhanced institutional capacity to integrate nature-based solutions and green tourism into adaptive governance frameworks.	• Climate resilient and adaptive capacity, including climate governance and knowledge systems, of the Krong Siem Reap, Banteay Srei, and Svay Leu districts in Siem Reap Province is poor. • The most vulnerable people (women, youth, people with disability, agricultural workers) are not identified or reached by local authorities/ agencies through their plans and programs, as the most vulnerable people tend to be excluded from the decision-making processes. • Institutional capacity is limited and fragmented to integrate climate adaptation, nature-based solutions, and green ecotourism into the local plans. Updated climate vulnerability and socio-economic data are lacking.	• The most vulnerable groups are prioritized as beneficiaries • Through mainstreaming the UN-Habitat's participatory People's Process approach into action throughout the project lifecycle, the project enables local communities, especially the most vulnerable people, to discuss and identify problems and solutions while also selecting beneficiaries, overseeing implementation, and monitoring progress until the project's completion. Training and capacity building of officials and the identified vulnerable members enable them to cope with climate change/ variability, while improving the capacities of officials to lead climate change adaptation planning/implementing activities, promoting nature-based solutions, green and safe ecotourism.
Component 2: Developing and piloting prioritized climate-resilient infrastructure, ecosystem-based, and livelihood investments within Commune/Sangkat and district/city development plans.	**Outcome 2:** Vulnerable households and communities benefit from improved livelihoods and enhanced resilience through the implementation of nature-based, small-scale infrastructure and adaptive land-use practices aligned with sustainable tourism and agriculture.	• Vulnerable communities in the heritage-protected areas are mainly reliant on agriculture as the main income source, even though changing rainfall and temperature patterns place significant pressure on crop yields, income stability, and food availability. • Illegal logging, agricultural encroachment, and unsustainable land use led to deforestation and habitat fragmentation, which are affecting agricultural productivity. The vulnerable communities have received little support so far to tackle issues, such as malfunctioning infrastructure, ecosystem degradation, flooding, droughts, and solid waste management. • These social and environmental issues directly or indirectly affect the safety and economic activities of vulnerable households. • Degraded ecosystems increase community exposure to landslides, droughts, and flooding. Limited investment in basic services such as water access, slope stabilization, and clean energy.	• Climate-adaptive livelihoods are enhanced through capacity-building on climate-smart agriculture and climate-resilient income strategies based on market analysis and training. • The annual income stability of the vulnerable households improves by producing and selling products based on identified viable, climate-resilient, and value-added agricultural products. Minimize the risk of illegal logging, agricultural encroachment, and unsustainable land use by promoting community-led climate-resilient and nature-based solutions through participatory action planning. • The natural resources and targeted vulnerable communities in the protected areas are protected from floods, droughts, strong winds, and forest fires, while harnessing local natural resources for protecting natural resources and ecosystems, indigenous cultures, and creating alternate income sources through community-based ecotourism.
Component 3: Supporting the local stakeholders in replicating the project's best practices through policy recommendations and knowledge sharing initiatives.	**Outcome 3:** Proven models for community-led, integrated climate adaptation, spanning nature-based solutions, resilient infrastructure, and diversified livelihoods, are documented, disseminated, and adopted for replication and policy integration at sub-national and national levels, including within Siem Reap's sustainable green tourism economy.	• There is no system for collecting, documenting, or disseminating adaptation lessons. • Baseline data are lacking, local innovations are undocumented, and knowledge remains isolated at the community level. • Institutional learning is weak or absent. Limited knowledge sharing opportunities among local or indigenous language speakers.	• Participatory M&E systems in place. • Knowledge products (case studies, briefs, visuals) were developed and disseminated locally and nationally. • Communities engaged in learning processes. • Good practices documented and scaled through national platforms. Knowledge products work as advocacy materials to attract ecotourists.

J. Sustainability of programme outcomes

Sustainability is integrated into the project design to ensure that adaptation benefits for vulnerable communities in Krong Siem Reap, Banteay Srei, and Svay Leu districts persist beyond the project lifecycle. Building on lessons from Adaptation Fund–supported initiatives in Cambodia, the project employs a community-driven and institutionally anchored approach. This strategy enhances local capacity, reinforces ownership, supports viable livelihoods, and maintains ecosystem integrity by leveraging existing governance, financing, and community systems across institutional, social, economic, financial, environmental, and infrastructure domains.

Long-term sustainability will be achieved through local ownership, institutional integration, and ongoing capacity development. Operations and maintenance (O&M) responsibilities will be established prior to infrastructure completion, with Community Maintenance Committees managing community-level assets and integrating maintenance into Commune Development Plans (CDPs), Commune Investment Plans (CIPs), and District Development Plans (DDPs). Forest Protection Committees and eco-village groups will provide ecosystem stewardship. Community Adaptation Plans (CAPs) and Community Agreements will be incorporated into local planning systems, supported by Training-of-Trainers models and technical mentoring. Community institutions, CDCs, Commune Councils, and Forest Protection Committees will maintain oversight and adaptation activities beyond project completion, ensuring sustained benefits after 2031.

The entities referenced throughout this proposal—including the Project Steering Committee, Provincial Departments and APSARA Authority, District Administrations, Commune/Sangkat Councils, CDCs, Forest Protection Committees, Primary Groups, Community Maintenance Committees, and eco-village groups—constitute a unified governance structure rather than separate bodies. Figure 10 delineates their respective roles and reporting lines, distinguishing between standing institutions that persist beyond the project's conclusion in 2031 (green) and operational groups established and overseen by CDCs for specific project functions (pink).

Three features are critical for sustainability. First, CDCs function as standing sub-committees of the Commune/Sangkat Council rather than as parallel project bodies, ensuring their formal status after project completion. Second, Forest Protection Committees operate under the mandate of the Community Forestry Sub-Decree (2003), and their co-management responsibilities are independent of project financing. Third, Primary Groups, Community Maintenance Committees, and eco-village groups are operational entities convened by CDCs for specific functions such as grassroots participation, asset O&M, and eco-village management. Their continuity relies on the CDC/Commune Council structure, which, as a standing institution, is not contingent on continued Adaptation Fund support.

1. Institutional Sustainability (link to LLA Principle 4)
Climate adaptation is embedded within sub-national planning systems, including Commune Development Plans (CDPs), Commune Investment Plans (CIPs), District Development Plans (DDPs), and Community Protected Area (CPA) management plans, ensuring that adaptation priorities are systematically incorporated into regular planning and budgeting cycles. Capacity-building initiatives enhance the ability of commune councils, district administrations, and forest protection communities to conduct risk-informed planning and climate-responsive governance. Through the People's Process, Primary Groups and CDCs lead local prioritisation, monitoring, and maintenance, while Commune Councils maintain authority over planning integration, budgeting, and oversight. CPA committees continue to manage ecosystems within their legal mandates. The Ministry of Environment (MoE) ensures alignment with national frameworks, including the Cambodia Climate Change Strategic Plan (CCCSP, 2024–2033), thereby supporting continuity and replication.

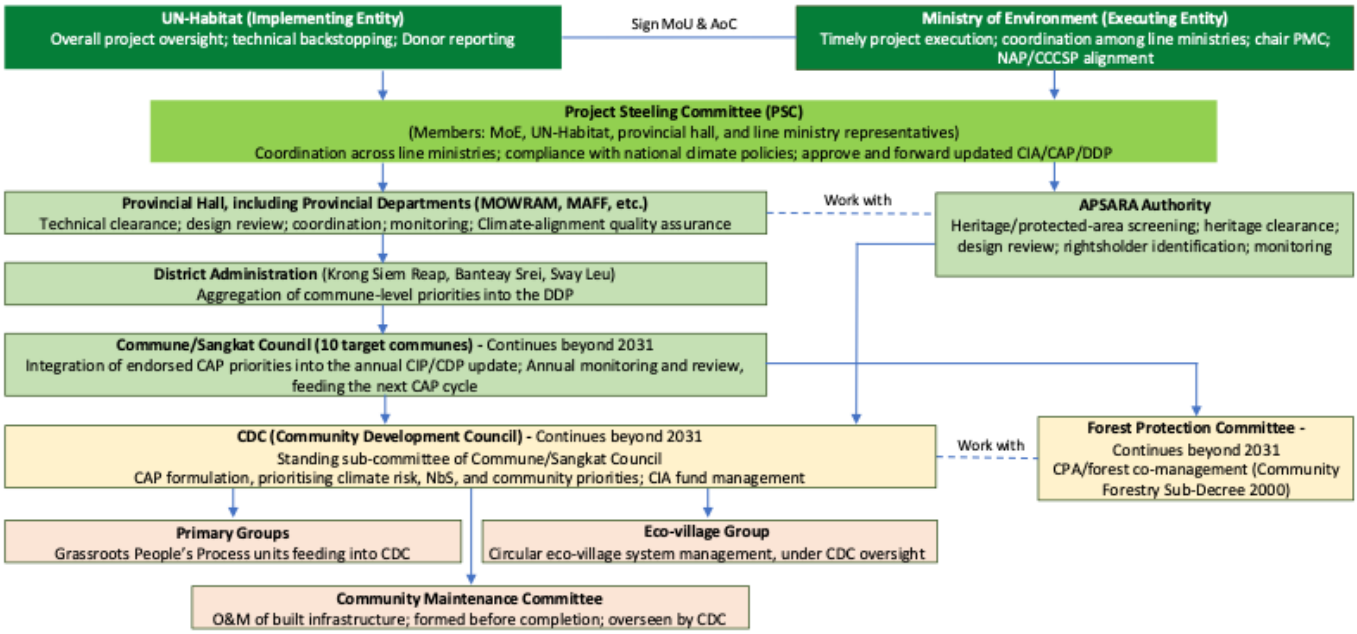


Figure 10 *Institutional and community governance structure*

The four planning instruments referenced above each serve distinct sustainability functions. Commune Development Plans (CDPs) are multi-year, all-sector development plans for each commune; adaptation priorities are incorporated into CDPs through the CAP-to-CIP/CDP institutionalisation pathway and are updated according to the Ministry of Interior's decentralisation cycle. Commune Investment Plans (CIPs) are annual rolling investment plans derived from each CDP, listing budgeted subprojects for the upcoming fiscal year and serving as the mechanism through which CAP-prioritized subprojects receive commune funding (Table 13, Step 4), updated annually with the commune budget cycle. District Development Plans (DDPs) aggregate commune CDPs and CIPs at the district level (Table 13, Step 5) for cross-commune investments, updated on the district's own cycle. CPA management plans operate separately, governing natural resource management within registered Community Protected Areas under the Protected Areas Law (2008), including zoning, resource-use regulations, and restoration. These plans are periodically reviewed by the Forest Protection Committee in collaboration with the General Department of Administration for Nature Conservation and

Protection (GDANCP), outside the general development planning cycle. This distinction is significant for sustainability: CDPs, CIPs, and DDPs anchor adaptation investments within general development budgeting under Commune/Sangkat and district governments, while CPA management plans provide a foundation for ecosystem stewardship within protected-area governance under Forest Protection Committees and GDANCP. Collectively, these instruments address both the financing and natural resource management aspects of the sustainability strategy.

2. Social Sustainability (link to LLA Principle 2)

Inclusive, community-led processes enhance ownership and build long-term capacity. The People's Process ensures the participation of women, youth, persons with disabilities, and forest-dependent households. Community groups, producer collectives, and participatory monitoring systems foster social cohesion, facilitate knowledge transfer, and strengthen adaptive capacity. Access to climate-resilient services such as early warning systems, water security, and renewable energy further supports sustained resilience.

3. Economic Sustainability

Diversified, climate-resilient livelihoods promote sustained income and alleviate pressure on natural resources. These outcomes are achieved through climate-smart agriculture, agroforestry, and value-added non-timber forest product (NTFP) enterprises, supported by training, cooperative models, and market linkages. Economic benefits are further reinforced by improved productivity and reduced climate-related losses.

4. Financial Sustainability (link to LLA Principle 3)

Adaptation financing is integrated into local planning and budgeting systems. Commune/Sangkat Funds and district investment programs will support the continuation of priority actions, supplemented by community contributions where appropriate. Community-managed revenue streams, such as eco-tourism services, visitor fees, and sustainable value chains, will be institutionalized and allocated for operations and maintenance (O&M). O&M financing will utilize a blended model: Commune/Sangkat budgets will cover core maintenance, while community-level revenue and contributions will finance supplementary costs. Cost-sharing arrangements will be defined during implementation. The Community Implementation Agreement (CIA) model establishes local financial management, procurement, and reporting systems that can be sustained and leveraged for future investments, thereby strengthening long-term capacity to access and manage climate finance.

5. **Environmental Sustainability**
Nature-based solutions (NbS) form the foundation of environmental sustainability by restoring ecosystem functions and enhancing climate resilience. Interventions such as forest rehabilitation, watershed management, and slope stabilization improve ecological integrity and reduce long-term maintenance requirements. These actions align with national frameworks, including the National Biodiversity Strategy and Action Plan (NBSAP) and Nationally Determined Contribution (NDC) priorities. A comprehensive Environmental and Social Risk Assessment (ESRA) will be conducted during full proposal development to identify risks and establish mitigation measures. This process will ensure compliance with the Adaptation Fund Environmental and Social Policy (AF ESP) and relevant national regulations, integrating safeguards into project design, implementation, and monitoring.

6. Infrastructure Sustainability (link to LLA Principle 1)
Climate-resilient design, local ownership, and clearly defined operations and maintenance (O&M) arrangements ensure the sustainability of infrastructure. The use of locally appropriate materials and technologies reduces maintenance complexity. Communities, commune councils, and technical agencies will agree on O&M responsibilities, with training and formal handover processes to ensure continued functionality.

7. Knowledge and Replication (link to LLA Principle 6)
Knowledge management and policy integration facilitate scaling and long-term impact. Lessons learned, tools, and case studies will be documented and shared through national platforms and stakeholder dialogues. Policy briefs and technical recommendations will be submitted to the Ministry of Environment (MoE) and relevant ministries, aligned with national frameworks such as the Cambodia Climate Change Strategic Plan (CCCSP) and the National Adaptation Plan. This approach will support the replication of locally led adaptation models in other climate-vulnerable provinces.

Sustainability is achieved through a locally led system in which community institutions manage implementation and monitoring. At the same time, sub-national authorities integrate adaptation into formal planning and budgeting through a combination of devolved decision-making, institutional anchoring, diversified financing, and policy integration, ensuring that adaptation investments are sustained, scaled, and responsive to evolving climate risks.

All investments will be subject to climate risk and Environmental and Social Safeguards (ESS) screening prior to implementation. Technical designs will integrate future climate projections and ecosystem considerations. Community consultations and participatory assessments will identify and mitigate unintended consequences and risks of maladaptation. Nature-based and adaptive management approaches will minimise lock-in risks and prevent the transfer of vulnerability. ESS screening, consistent with the Adaptation Fund Environmental and Social Policy (AF ESP) and UN-Habitat Environmental and Social Safeguards System (ESSS) requirements, will be applied throughout the project cycle. Risks related to labour, gender exclusion, sexual exploitation and abuse/sexual harassment (SEA/SH), biodiversity, construction impacts, and community health and safety will be managed through Environmental and Social Management Plans (ESMPs), Codes of Conduct, grievance mechanisms, monitoring, and community-based accountability measures.

K. Environmental and social impacts and risks

The proposed project will fully comply with Cambodia's national technical standards and environmental legislation, the Adaptation Fund's Environmental and Social Policy (ESP) and Gender Policy, and UN-Habitat's Environmental and Social Safeguards System (ESSS, Version 3). Environmental and social safeguards will be systematically integrated throughout the project cycle to prevent, minimise, and manage risks, while promoting environmental sustainability, gender equality, social inclusion, and human rights–based approaches. Project planning and design are guided by inclusive, participatory processes with communities and local authorities to ensure interventions avoid adverse impacts on ecosystems and vulnerable groups.

Initial environmental and social screening indicates the project will be classified as Category B under the Adaptation Fund's ESP, due to potential site-specific, limited, reversible, and mitigable risks. These risks are mainly linked to small-scale physical investments under Component 2, such as water-harvesting systems, eco-trails, sewage and wastewater systems, and land restoration. Activities under Components 1 and 3 are non-structural, including capacity building, planning, coordination, and knowledge management, and are considered Category C, with negligible or no environmental or social risk.

Combined scale, Indigenous Peoples screening, access restrictions, and pollution/public health risks
Reservoir and water-gate rehabilitation, eco-trail development, wastewater and sewerage infrastructure, and reforestation will take place across five forest protection communities and at least 12 eco-villages within and near Phnom Kulen National Park and the Angkor landscape. This combined footprint presents potential for direct, indirect, and cumulative impacts that differ from those of individual activities. UN-Habitat will conduct a combined and cumulative impact assessment at the full proposal stage, integrated with site-specific heritage and protected-area assessments, rather than assessing each activity separately.

In the Indigenous Peoples screening, the proposal's current statement that consultations confirm Indigenous presence "based on the census and local registration database" relies on administrative registration alone, which is not adequate grounds to conclude that no Indigenous Peoples or self-identifying Indigenous communities are present. UN-Habitat will replace this with a dedicated screening at full proposal stage combining: verification against national and provincial indigenous/ethnic-minority registries;

culturally appropriate, facilitated consultations with forest protection communities and sub-national authorities designed to elicit self-identification rather than relying on registration as a proxy; and consultation with APSARA and the Ministry of Environment on any documented indigenous or ethnic-minority presence in the area. If Indigenous Peoples are confirmed to be present at any target site, an Indigenous Peoples Plan meeting the ESP's requirements will be prepared and disclosed before related activities proceed, as reflected in the revision to Table 25, row 7 (Indigenous Peoples).

This concern is corroborated by concrete, directly relevant evidence rather than being only a generic precaution. In 2025, Siem Reap provincial authorities began formal steps to recognise a Kuoy indigenous community across four villages, Srenoy, Sre Samuth, Lvea, and Kork Wat, of Sre Noy commune, Varin district (Khmer Times, 2025). Phnom Kulen National Park spans Banteay Srei, Svay Leu, and Varin districts, meaning this documented, provincially recognised indigenous community sits within the same national park landscape as two of this project's three target districts. The Kuy are Cambodia's largest ethnic-minority/indigenous group nationally and are traditionally forest-dependent, with a historical presence across the wider Kulen–Preah Vihear–Kampong Thom uplands (Minority Rights Group International; IFAD Country Technical Note on Indigenous Peoples' Issues, Cambodia). While the confirmed Kuoy villages are administratively in Varin rather than in Svay Leu or Banteay Srei, their presence in the same protected-area landscape materially raises the likelihood that self-identifying Kuy or other indigenous households are also present within the project's five forest protection communities, reinforcing why the self-identification-based screening committed to above, rather than a registry check, is necessary before the full proposal stage.

The proposal states that no land acquisition or physical displacement is planned. However, it has not yet assessed whether reservoir rehabilitation, eco-trail development, or reforestation could restrict customary or informal resource use, such as NTFP collection, seasonal grazing, or fishing access. These restrictions could result in economic displacement, even without land acquisition, especially given the combined project footprint. UN-Habitat will conduct participatory land-tenure and resource-use mapping for each candidate site before final selection, applying an avoid-minimise-mitigate-compensate hierarchy. Any unavoidable restrictions will be addressed through site-specific livelihood restoration measures agreed with affected communities, and the project GRM will include a dedicated channel for access-related grievances. This is reflected in the revision to Table 25, row 8 (Involuntary Resettlement).

The current assessment addresses construction-phase risks such as waste disposal, sediment release, dust, and noise, but does not yet cover risks from wastewater and sewerage infrastructure (Output 2.6) or agrochemical, water-abstraction, and species-introduction risks from climate-smart agriculture (Output 2.1). UN-Habitat will ensure that wastewater and sewerage sub-projects use decentralised, low-technology treatment suitable for community scale, meet national effluent standards before release, and include sludge and solid-waste management and composting plans to prevent untreated effluent from reaching watercourses feeding the Tonle Sap system. Climate-smart agriculture will prioritise organic, low-input practices, exclude synthetic pesticide and fertiliser use within buffer distances (to be confirmed at full proposal stage) of reservoirs, wetlands, and waterways, and screen introduced crop varieties for invasive potential. Community WASH and vector-control awareness will accompany reservoir and sewerage works, along with basic safety measures such as fencing and signage at permanent water infrastructure. These measures are reflected in the revisions to Table 25, rows 12 (Pollution Prevention and Resource Efficiency) and 13 (Public Health).

Table 25 currently rates climate-change risk as Low, despite acknowledging maladaptive infrastructure risk. This is inconsistent, as a Low rating should indicate negligible residual risk after mitigation. UN-Habitat has revised the rating to Moderate (Table 25, row 11) and will design water-related infrastructure using forward-looking climate projections, including the SSP3-7.0 scenario, rather than relying solely on historical data. Designs will be reviewed for maladaptation risks, such as downstream flood exposure, dry-season over-extraction, and heat exposure on eco-trails, at both design and post-construction stages. Infrastructure performance will be monitored through the project's climate and results-monitoring system to enable corrective action if maladaptive outcomes arise.

The project uses a community-led, ecosystem-based approach with low-impact, nature-based solutions that avoid critical habitats, involuntary resettlement, and harm to physical or cultural heritage. Physical interventions will occur only at pre-identified, degraded, or community-approved sites to enhance ecosystem services, biodiversity, and climate resilience, with technical designs screened for compliance with national standards through inclusive reviews.

During proposal development and implementation, the project will apply a comprehensive safeguards framework, including an Environmental and Social Management Plan (ESMP), a Gender Action Plan (GAP), and a project-level Grievance Redress Mechanism (GRM). Coordination among local agencies at all levels will ensure compliance, oversight, and quality. UN-Habitat's ESSS Checklist (Version 3) will be used at the design stage for all sub-projects, with safeguard assessments validated by field offices and partners.

Mitigation measures will be monitored throughout the project lifecycle using disaggregated indicators, regular site visits, annual ESP re-screening, and safeguard audits based on field data and community feedback. Unforeseen risks will be addressed promptly, with lessons learned informing adaptive management. All infrastructure will comply with relevant national standards and be reviewed with government authorities at all levels. The project carries low to moderate environmental and social risks, managed in accordance with Adaptation Fund ESP principles and national regulations, as summarised below:
Key risks and mitigation measures include: siting in environmentally sensitive or protected areas, addressed through authority screening, alignment with national regulations and management plans, and technical validation; small-scale construction and

ecosystem disturbance, minimised through site-specific solutions, nature-based approaches, and environmental management practices; exclusion of vulnerable groups, addressed through inclusive participation quotas for women, youth, and vulnerable groups, transparent decision-making, and simplified occupational health and safety protocols including training, supervision, and basic safety provisions; financial management and misuse risk, managed through Community Implementation Agreements, dual-signatory accounts, milestone-based disbursement, audits, and social accountability mechanisms; and grievance and conflict risks, addressed through a structured grievance redress mechanism at community level with escalation to sub-national authorities. A detailed Environmental and Social Risk Assessment and relevant management plans will be developed at the full proposal stage.

Heritage, protected-area, and safeguards framework for the Angkor-Phnom Kulen landscape
The following commitments outline the assessment methodology, clearance requirements, and safeguards framework that UN-Habitat will apply. They do not indicate that heritage, biodiversity, or social risks have already been ruled out. Further screening and monitoring will be required at the full proposal stage and throughout implementation.

Site-specific mapping. At full proposal stage, UN-Habitat will map every candidate site against: the Angkor World Heritage property boundary and buffer zone; APSARA's five-zone system under the 1994 Angkor Zoning and Environmental Management Plan; the Phnom Kulen National Park boundary; known archaeological/sacred sites; protected and critical natural habitats; the Tonle Sap Biosphere Reserve's core, buffer, and transition zones (Royal Decree, December 2001; core zone ~42,300 ha of flooded forest); and customary-use areas identified through land-tenure mapping. Sites falling within a core protected or heritage zone will be excluded or relocated unless the competent authority grants explicit clearance.

Biodiversity, hydrology, and Outstanding Universal Value. Building on Table 25, rows 9-10 screening, UN-Habitat will assess impacts on ecosystem connectivity; on the hydrological regime feeding downstream wetlands, Angkor's water-management systems, and the Tonle Sap Biosphere Reserve; and on the visual integrity and authenticity underpinning Angkor's Outstanding Universal Value.

APSARA and heritage clearance; Heritage Impact Assessment. UN-Habitat will confirm, for each site, clearances required from APSARA National Authority (established 19 February 1995) and any other competent authority, and commission a Heritage Impact Assessment per UNESCO/ICOMOS guidance, covering baseline documentation, impact evaluation against Outstanding Universal Value attributes, the mitigation hierarchy, and monitoring. No physical works commence until applicable clearance is obtained.

Chance finds procedure. Adopted for all physical works and included in construction/community-contracting agreements: (1) work will stop immediately on discovery of archaeological, cultural, or paleontological material; (2) the find will be secured and left undisturbed; (3) the PMU Safeguards Officer will be notified and who in turn notifies APSARA or the relevant authority, consistent with Cambodia's 1996 Law on the Protection of Cultural Heritage; (4) work will not resume until the competent authority inspects and issues written clearance; (5) all contractors and site supervisors will be trained on the procedure before works begin.

Strengthened Indigenous Peoples and resettlement assessment. Extends the screening and land/resource-access mapping specifically to Phnom Kulen/Angkor sites: rightsholder identification will be cross-checked against APSARA and MoE records, and consultation will be designed to be culturally appropriate for any identified indigenous or ethnic-minority groups.

Safeguards framework for community-selected and not yet finalised activities. Because specific reservoir, eco-trail, reforestation, and eco-village sites will be selected through the People's Process during implementation, UN-Habitat will apply the following safeguard framework to any activity whose site is not yet finalised (Table 24):

Table 24 Safeguard Framework for any activity whose site is not yet finalised

Element	Requirement
Exclusion criteria	No works in the Angkor WHS core zone, prohibited APSARA zones, critical natural habitats, or protected archaeological/sacred sites without documented clearance; no activity without required FPIC; no involuntary displacement.
Screening and approval	(1) standardised E&S screening (per UN-Habitat's ESSS Checklist) before site finalisation; (2) risk categorisation and exclusion-criteria check; (3) heritage/protected-area screening with APSARA and/or MoE/GDANCP clearance where triggered; (4) confirmation of FPIC/community consent; (5) sign-off by PMU Safeguards Officer and relevant CDC before inclusion in the annual workplan. No works begin until all five steps are complete.
Institutional responsibilities	PMU Safeguards Officer: screening, ESMP/HIA supervision, GRM oversight. APSARA: heritage/protected-area clearance in its jurisdiction. MoE/GDANCP: clearance outside APSARA's jurisdiction. Commune/Sangkat Councils and CDCs: site identification, consultation, local GRM. UN-Habitat country office: independent QA and periodic audits.
Expertise and budget	A dedicated E&S Safeguards Specialist and heritage/cultural-resource consultant (jointly engaged with or seconded from APSARA where feasible) join the project team from inception, with a technical assistance budget line confirmed at full proposal stage.
No-works-before-clearance	For any activity without a finalized site at concept stage, implementation will not begin until screening/approval is complete and all clearances (heritage, protected area, environmental, community consent) are documented — binding regardless of schedule.

Revalidation of overall risk classification. These revisions mean the project's risk classification cannot yet be confirmed as fully resolved. UN-Habitat retains, pending the screening/HIA/ESMF process above, Category B for Component 2 physical investments (site-specific, potentially significant risks in the Angkor-Phnom Kulen landscape) and Category C for non-structural Component 1 and 3 interventions. This classification and Table 25's mitigation measures will be reconfirmed once site-specific mapping, HIA, and Indigenous Peoples screening are complete at full proposal stage, and re-screened throughout implementation per the Adaptation Fund's ESP.

Table 25 *Brief description of possible risks and preventive/mitigation measures*

Checklist of Environmental and Social Principles	Further Assessment Required for Compliance	Potential Impacts and Risks – Further Assessment and Management Required
1. Compliance with the Law	✓	Medium risk. Small-scale infrastructure (reservoirs, water gate, eco-trails) may require site-specific authorization from MoE, MRD, or Commune Councils. **Mitigation:** Conduct legal compliance screening; secure all approvals; ensure contractors comply with PA Law, Construction Standards, MRD Rural Infrastructure Guidelines, and MoE Protected Area regulations; contracts of all stakeholders with a clause to comply with domestic and national regulations. Given the project's location within and adjacent to the Angkor World Heritage property and Phnom Kulen National Park, legal compliance also requires formal clearance from APSARA National Authority and, where relevant, GDANCP, alongside MoE, MRD, and Commune Council authorizations; no physical works will commence in APSARA-managed zones or nationally protected heritage areas until clearance is obtained.
2. Access and Equity	✓	Medium risk. Risk of inequitable access to participate in project decision-making due to conduct participatory targeting (including representatives of marginalized populations); risk of unequal access to benefits of the project's small-infrastructure investment; Khmer-language consultations; ensure mobility and disability inclusion. **Mitigation:** Apply participatory, gender-responsive targeting with representatives of marginalized groups; conduct consultations in Khmer and relevant local languages; ensure mobility and disability access; and monitor equitable benefit distribution through disaggregated indicators.
3. Marginalized and Vulnerable Groups	✓	Medium risk. Women, youth, older persons, and persons with disabilities may not fully access project opportunities. **Mitigation**: Conduct gender-disaggregated baseline; Gender Action Plan (GAP); ensure tailored outreach; allocate quotas; prioritize vulnerable groups in livelihood, governance, and eco-tourism activities.
4. Human Rights	X	Low risk. No anticipated adverse impacts: all activities enhance rights to participation, water, safety, and livelihood opportunities. **Mitigation:** Uphold UDHR and UNDRIP principles; embedded inclusion in planning; ensure GRM is accessible to all stakeholders, including women and youth.
5. Gender Equality and Women's Empowerment	✓	Medium risk. Women may face constraints in participation, benefit-sharing, leadership, or mobility in eco-tourism and livelihood activities due to cultural norms and time-intensive household care duties. **Mitigation:** Develop a Gender Action Plan (GAP); ensure women-only consultations; ensure ≥50%per cent minimum participation.
6. Core Labour Rights	X	Low risk. Construction under community contracts may involve occupational hazards and risk of underpayment and gender-based unfair payment. **Mitigation:** Enforce Cambodian Labour Law, ILO standards; provide training; ensure wage transparency; integrate labour safety monitoring.
7. Indigenous Peoples	X	Risk not yet fully determined; further assessment required. A preliminary desk review of national census and indigenous-community registration data found no legally registered indigenous community in the target communes, but this alone does not confirm the absence of Indigenous Peoples or self-identifying indigenous communities under the Fund's ESP. **Mitigation:** At full proposal stage, UN-Habitat will complete a dedicated Indigenous Peoples screening combining (i) verification against national and provincial indigenous-community registries, (ii) culturally appropriate, facilitated consultations designed to elicit self-identification rather than relying on administrative registration alone, and (iii) consultation with APSARA and MoE on any known indigenous or ethnic-minority presence in Phnom Kulen National Park and the wider Angkor landscape. If Indigenous Peoples are confirmed present, an Indigenous Peoples Plan meeting the ESP's FPIC requirements will be prepared before related activities proceed. This is not a hypothetical concern: in 2025, Siem Reap provincial authorities began formally recognising a Kuoy indigenous community across four villages of Sre Noy commune, Varin district — a district that shares the boundary of Phnom Kulen National Park with the project's Svay Leu and Banteay Srei target districts, within the same protected-area landscape. The full-proposal-stage screening described above will specifically test whether this or other self-identifying Kuy or ethnic-minority presence extends into the project's own target communities.
8. Involuntary Resettlement	X	Medium risk (revised from Low; see justification below). No land acquisition or physical displacement. However, reforestation or water reservoirs could inadvertently restrict access if poorly sited.

		Mitigation: Undertake land-use verification; prepare a reforestation plan, an inclusive reservoir rehabilitation plan and confirmation, ensure restoration and reservoir rehabilitation occurs on public/communal lands only; conduct access mapping; avoid any restriction of customary use. This rating has been revised upward to reflect the combined footprint of reservoir rehabilitation, eco-trail development, reforestation, and water-gate works across the target forest protection communities, which increases the likelihood that some customary or informal resource-use areas could be affected even without land acquisition. Mitigation (in addition to the above): participatory land-tenure and resource-use mapping will be completed for every candidate site before final site selection, applying an avoid-minimise-mitigate-compensate hierarchy; any unavoidable restriction on customary or informal access will be addressed through a site-specific livelihood restoration measure agreed with the affected community, and the project GRM will maintain a dedicated channel for access-related grievances.
9. Protection of Natural Habitats	✓	Medium risk. Limited disturbance is possible near degraded forest edges, eco-trail areas, and water reservoirs. **Mitigation:** Conduct ecological site inspections and stakeholder consultations; avoid intact habitats; apply biodiversity-safe NbS design; restore vegetation after works. This assessment currently covers direct, localised disturbance. At full proposal stage it will be extended to the combined and cumulative impacts of all Component 2 physical works together, and to screen Output 2.1 climate-smart agriculture activities for natural-habitat risks from water abstraction, new crop/species introduction, and land-cover change, alongside the reservoir, eco-trail, and reforestation works already covered.
10. Conservation of Biological Diversity	✓	Medium risk. Limited disturbance is possible near degraded forest edges, eco-trail areas, and water reservoirs. **Mitigation:** Conduct ecological site inspections and stakeholder consultations; avoid intact habitats; apply biodiversity-safe NbS design; restore vegetation after works. Given the project's setting within the wider Angkor-Phnom Kulen-Tonle Sap landscape, this assessment will be extended at full proposal stage to evaluate direct, indirect, and cumulative impacts on ecosystem connectivity (including wildlife movement between Phnom Kulen National Park and surrounding forest patches) and on the hydrological regime feeding downstream wetlands and the Tonle Sap Biosphere Reserve, in addition to the localised habitat disturbance addressed above.
11. Climate Change	**X**	Moderate risk (revised from Low; see justification below). The project is designed to bring adaptation benefits. However, there is a risk of maladaptive infrastructure- either by failing to bring benefits or by shifting climate-change-related risks and vulnerabilities to other areas. Minimal emissions are also expected small embodied carbon from infrastructure materials and mission travel. **Mitigation**: Source local materials where possible; conduct pre-site inspections before design; use low-carbon, solar-powered, and renewable materials; adopt NbS. This rating has been revised upward because the proposal itself identifies a risk of maladaptive infrastructure, inconsistent with a Low rating — Low applies only where residual risk is negligible once mitigated, which cannot yet be confirmed for infrastructure designed under today's climate conditions rather than projected ones. **Additional mitigation**: infrastructure will be designed against forward-looking climate projections, including the SSP3-7.0 scenario used elsewhere in this proposal; designs will be reviewed for maladaptation risk (e.g., downstream flood exposure, dry-season over-extraction, heat exposure on eco-trails) at design and post-construction stages; and performance will be monitored through the project's climate and results-monitoring system.
12. Pollution Prevention and Resource Efficiency	**X**	Moderate risk (revised from Low; see justification below). Risks of small-scale, localized pollution due to poor disposal management of waste, sediment release, or materials during water reservations and water gate rehabilitation. **Mitigation:** Contractors implement based on Waste Management Plans; enforce sediment traps and runoff control; use efficient, locally sourced materials, and provide proper protective gear for construction workers. This rating has been revised upward to reflect two activity types not previously addressed here: wastewater and sewage systems under Output 2.6, and climate-smart agriculture under Output 2.1, alongside the pollution risks from waste disposal, sediment release, and construction materials already noted. **Mitigation** (in addition to the above): wastewater and sewerage sub-projects will apply decentralised, low-technology treatment appropriate to community scale, meet national effluent standards before release, and include a sludge/solid-waste management and composting plan so no untreated effluent reaches watercourses feeding the Tonle Sap system; climate-smart agriculture will prioritise organic, low-input practices, exclude synthetic pesticide/fertiliser use within buffer distances (to be confirmed at full proposal stage) of reservoirs, wetlands, and waterways, and screen introduced crop varieties for invasive potential; sediment and erosion control will apply throughout reservoir and water-gate works.
13. Public Health	**X**	Moderate risk (revised from Low; see justification below). Typical construction site risks during construction include dust, noise, unsafe equipment, sanitation issues, and vehicle transportation. **Mitigation:** Enforce MRD/MoH WASH and safety standards; PPE; first-aid kits; signage; ensure clean water and sanitation at worksites, safety plan for the construction site, and provide proper protective gear for construction workers. This rating has been revised upward to reflect vector-borne and waterborne disease risks (e.g., mosquito breeding in stagnant water, contamination from poorly managed wastewater) from

		reservoir, water-gate, and sewerage infrastructure, and community-safety risks around open water bodies, not addressed in the construction-focused assessment above. Mitigation (in addition to the above): community WASH and vector-control awareness will accompany reservoir and sewerage works; standing-water management will be built into reservoir/water-gate designs and O&M plans; and permanent water infrastructure will include basic safety measures (fencing or barriers at high-risk points, warning signage) agreed with the community during design.
14. Physical and Cultural Heritage	✓	Moderate to high risk (revised from Medium; see justification below). Potential disturbance to the landscape and the value of protected forests and heritage protected areas. **Mitigation:** Heritage screening; community mapping; proper GRM establishment, supervision by forest protection communities. This rating has been revised upward because the project area lies within and adjacent to the Angkor World Heritage property, its buffer zone, and Phnom Kulen National Park, an area of exceptional archaeological and cultural sensitivity not reflected in the previous rating and mitigation measures. A full site-specific heritage and protected-area impact assessment, a Heritage Impact Assessment (HIA) per UNESCO/ICOMOS guidance, APSARA and other competent-authority clearance requirements, and a chance-finds procedure are set out under CAR19 above and will be finalised at full proposal stage; no physical works will commence until applicable clearances are obtained.
15. Lands and Soil Conservation	**X**	Low risk. Soil erosion is possible during earthworks for trails, water reservoirs, and slopes. Introduction of invasive species during the reforestation. **Mitigation:** Apply nature-based stabilization (vetiver, bamboo, mixed planting); terracing; erosion fencing; time works for the dry season; monitor post-construction stability; introducing native species.

Table 26 *Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund*

Project Objective(s)[72]	Project Objective Indicato	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Objective 1: To strengthen the development and investment planning processes at the Commune/Sangkat and district/city levels by embedding climate risk, integrated adaptation solutions, and locally led decision-making within local development planning and capacity-building.	- # of institutions integrating climate risk into annual plans disaggregated - % of Commune/Sangkat/District staff with improved capacity (disaggregated by gender and ethnicity). - # of trained people, disaggregated by gender	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	96,000
		Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	296,000
Objective 2: To develop and pilot prioritised climate-resilient infrastructure, ecosystem-based, and livelihood investments within Commune/Sangkat and district/city development plans.	- % of populations receives disseminated early warning - # of physical infrastructure improved - # of ecosystem services and natural resource assets maintained or improved - % of populations practice climate-smart agriculture and value-addition practices (sex & ethnicity disaggregated)	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	150,000
		Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.1. Responsiveness of development sector services to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	1,847,000
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	250,000
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets 6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	1,101,000

[72] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

Objective 3: To support local stakeholders in replicating the project's best practices through policy recommendations and knowledge- sharing initiatives.	- # of population receives knowledge products produced (hard and soft copies) - # of participants to the learning events (sex & ethnicity disaggregated)	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	468,000
Total outcome level grant amount				**4,208,000**

Table 27 *Indicative targets for project-specific results framework indicators*

Project Outcome(s)	Project Outcome Indicator(s)	Adaptation Fund Output	Adaptation Fund Output Indicator	Grant Amount (USD)
Outcome 1: Sub-national development and investment planning processes (Commune/Sangkat and District levels) are climate- informed and demonstrate enhanced institutional capacity to integrate nature-based solutions and green tourism into adaptive governance frameworks.	- # of Commune/Sangkat/District plans integrating climate risks based on vulnerable assessments. - % of Commune/Sangkat/District members with increased climate adaptation capacity (sex & ethnicity disaggregated) - % of women participating in capacity-building trainings	Output 1.1: Risk and vulnerability assessments conducted and updated	1.1. No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale)	96,000
		Output 2.1: Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	2.1.1. No. staff trained to respond to, and mitigate impacts of, climate-related events (by gender) 2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	296,000
Outcome 2: Vulnerable households and communities benefit from improved livelihoods and enhanced resilience through the implementation of nature-based, small-scale infrastructure and adaptive land-use practices aligned with sustainable tourism and agriculture.	- # of beneficiaries covered by early warning system installation. - # of physical assets established (eco-villages, nursery, water gate). - # of natural resource assets strengthened (reservoir sites, flood-resilient community nature-based infrastructure solutions, embankment stabilization). - # of households adopting climate-smart agriculture and value-addition practices. % increase in average income from climate-smart agriculture and value-addition practices. - % of women and youth promoted climate-smart agriculture and value-addition practices.	Output 1.1: Risk and vulnerability assessments conducted and updated	1.1. No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale) 1.2 No. of early warning systems (by scale) and no. of beneficiaries covered	150,000
		Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale) 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale	1,847,000
		Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	250,000
		Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies 6.2.1. Type of income sources for households generated under climate change scenario	1,101,000
Outcome 3: Proven models for community-led, integrated climate adaptation, spanning nature-based solutions, resilient infrastructure, and diversified livelihoods, are documented,	- # of knowledge products produced - # of policy platforms integrating lessons - # of learning events conducted - % of female participants in the training events	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	468,000

disseminated, and adopted for replication and policy integration at sub-national and national levels, including within Siem Reap's sustainable green tourism economy.				
Total output level grant amount				**4,208,000**

The tables above present the project's alignment with the Adaptation Fund's standardised results framework outcomes and outputs but did not previously include numeric targets for the project-specific indicators in the 'Project Objective Indicator(s)' and 'Project Outcome Indicator(s)' columns.

Table 28 below provides an indicative, quantified target for every project-specific indicator, organised by Objective/Outcome so that the same targets apply consistently to both the objective-level and outcome/output-level tables above (which share largely the same underlying indicators). Targets are grounded in beneficiary, area, and asset figures already established elsewhere in this proposal (Table 9's beneficiary and cost data, Output 2.2's 150-hectare restoration target, Output 2.4's 57-hectare reservoir catchment area, Output 2.5's 12-eco-village target, and the 5 poor settlements/5 forest protection communities that define the project's community scope) not newly invented figures, so that the results framework, Table 27, and the narrative descriptions of each output remain internally consistent. Where a precise unit count depends on detailed engineering design not yet completed at concept stage (for example, the exact number of water gates or early warning stations), this is stated explicitly instead of presented as a firm figure, in line with these being indicative concept-stage targets to be refined at full proposal stage.

Table 28 *Indicative, quantified target for every project-specific indicator*

	Project-specific indicator	**Indicative target (by project end)**
Objective / Outcome (Component) Objective 1 / Outcome 1 (Component 1)	# of institutions integrating climate risk into annual plans	At least 10 Commune/Sangkat councils (covering the 5 poor settlements and 5 forest protection communities) and the 3 District administrations of Krong Siem Reap, Banteay Srei, and Svay Leu
	% of Commune/Sangkat/District staff with improved capacity (by gender and ethnicity)	At least 70% of trained staff demonstrating improved capacity, of whom at least 40% women
	# of trained people (by gender)	At least 388 people trained (116 women), consistent with Output 1.2 in Table 9
	# of Commune/Sangkat/District plans integrating climate risk based on vulnerability assessments	At least 10 Community Action Plans and their corresponding CIP/CDP updates (one per targeted poor settlement/forest protection community), per the Table 13 institutional pathway
	% of women participating in capacity-building trainings	At least 40%
Objective 2 / Outcome 2 (Component 2)	% of population receiving disseminated early warning	100% of Output 2.7's coverage population: 24,723 unique direct beneficiaries; 276,258 indirect, per Table 9
	# of physical infrastructure / assets established	At least 12 eco-villages (Output 2.5), 1 regional nursery (Output 2.2), and 1 reservoir rehabilitation site (Output 2.3); precise unit counts for water retention/gate (Output 2.4), sewerage (Output 2.6), and early warning (Output 2.7) infrastructure to be confirmed through detailed engineering design at full proposal stage
	# of ecosystem services / natural resource assets maintained or improved	At least 207 hectares (150 ha forest and watershed restoration under Output 2.2; 57 ha reservoir catchment rehabilitation under Output 2.4)
	# of households adopting climate-smart agriculture and value-addition practices	At least 2,476 direct beneficiaries (1,224 women), consistent with Output 2.1 in Table 9
	% increase in average income from climate-smart agriculture and value-addition practices	At least 15% among adopting households
	% of women and youth among climate-smart agriculture participants	At least 50%
Objective 3 / Outcome 3 (Component 3)	# of knowledge products produced (hard and soft copies)	At least 8 knowledge products (case studies, toolkits, policy briefs, training materials) over the project period
	# of policy platforms integrating lessons	At least 2 (provincial and national coordination platforms, including the Technical Working Group on Climate Change referenced under Criterion 8)
	# of learning/knowledge-exchange events conducted	At least 6 over the project period
	# of participants in learning events / % female participants	At least 500 participants (250 women), consistent with Output 3.1/3.2 in Table 9; at least 40% women among all training-event participants

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government (Please find the official endorsement letter from Ministry of Environment below)

KINGDOM OF CAMBODIA
Nation Religion King

Ministry of Environment
Nº : 4210 / 0626 MoE

Phnom Penh, 2 June 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: secretartiat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Locally Led Adaptation Concept Note on Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia.

In my capacity as designated authority for the Adaptation Fund in Cambodia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Cambodia. The proposal directly supports the objectives outlined in Cambodia's Climate Change Strategic Plan (CCCSP) 2024-2033, Long-Term Strategy for Carbon Neutrality (LTS4CN) and Cambodia's Nationally Determined Contribution (NDCs3.0), enhance sustainable livelihoods and climate resilience of communities in the heritage-protected areas of Siem Reap Province by 2030 through the implementation of community-led nature-based solutions, while strengthening the capacity of local authorities and community groups to undertake risk-informed planning, sustainable resource management, and ecosystem stewardship.

Accordingly, I am pleased to endorse the above LLA Concept Note with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Human Settlements Programme (UN-Habitat) and executed by the Ministry of Environment (MoE) of Cambodia.

I sincerely hope that this proposal will be considered favorably by the Adaptation Fund.

Yours sincerely,
For Minister

CHUOP Paris, PhD
Secretary of State

Morodok Techo Building (Lot 503) Tonle Bassac, Chamkarmorn, Phnom Penh, CAMBODIA, Phone: 023 235 004 / 023 235 006

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (Cambodia Climate Change Strategic Plan and updated Nationally Determined Contribution) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Raf Tuts
Director, Global Solutions Division
UN-Habitat

Date: 24/06/2026	Tel. +254-20-762-3736 and email: raf.tuts@un.org
Project Contact Person: Odicea Angelo Barrios, Programme Management Officer, Human Settlements, UN-Habitat Regional Office for Asia and the Pacific	
Tel. (81-92) 724-7121 And Email: odicea.angelobarrios1@un.org	

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Annex 1: Meetings with stakeholders during the Pre-Concept Note Phase

Date	Stakeholder	Venue	Objective	Outputs
16 June 2025	Representatives from the Department of Environment Attendees: 9 (Female: 2)	Provincial Department of Environment	Consultation on the current challenges and needs of communities in Siem Reap Province, including preparation for community meetings, site investigations, and data collection.	• Discussed overview, key challenges, and needs of the Kulen Protected Area. • Recommendation for the project's focus on livelihoods improvement, innovative ecotourism activities, capacity-building, and climate-resilient agriculture.
17 – 18 June 2025	Representative from Siem Reap City and Sangkats in Siem Reap City Attendees: 14 (Female: 3)	Siem Reap City Hall and Proposed Site	Consultation on existing challenges and community needs, especially in the APSARA zone of Siem Reap Municipality.	• Discussed overview, key challenges, and needs of Siem Reap Province and 7 Sangkats in Siem Reap City. • Obtained information of climate-vulnerable settlements and their challenges and needs (e.g. infrastructure, livelihood, ecotourism values, water access, and wastewater management).
17 June 2025	Representatives from the district administration, communes, and villages Attendees: 15 (Female: 2)	Banteay Srei District Hall and site	Consultation on the existing challenges and needs of communities in Banteay District, especially in Kulen Protected Area.	• Discussed overview, key challenges, and needs of Banteay Srei District. • Obtained their key challenges and recommendations for the project to improve, such as agricultural irrigation, water access, agricultural techniques, ecotourism values, mountainous trails, tree replantation.
19 June 2025	Representatives from communes, communities, and Department of Environment Attendees: 14 (Female: 2)	Kulen Community	Consultation on the challenges and needs of communities in Kulen Protected Area	• Understanding of Kulen Community's background, history, challenges, and the needs. • Recommendation for the project to focus on water access, capacity-building on agricultural skills, waste management, eco-tourism marketing.

Annex 2: Meetings with stakeholders during the Concept Note Phase

Date	Stakeholder	Venue	Objective	Outputs
06 May 2026	Representatives from Siem Reap Provincial Administration Attendees: 4 (Female:1)	Provincial Hall	Consultation on proposed outcomes, outputs in Siem Reap Province, including project gender responsive measures.	• Discussed community challenges, priorities, and needs aligned with the proposed project outcomes and outputs. • Collected missing data and identified gender-responsive measures and target poor settlements. • Recommended project focus areas including livelihood improvement, innovative ecotourism, climate-resilient agriculture, capacity building, and early warning systems.
06 May 2026	Representative from APSARA Authority Attendees: 5 (Female: 2)	APSARA Authority Office	Consultation on feasibility to intervene the small-scale infrastructure improvement in APSARA area such as output 2.6 and future engagement.	• Obtained insights into ongoing activities of the APSARA Authority. • Agreed on proposed outcomes and outputs, noting that small-scale infrastructure is feasible with regular engagement from the authority.
06 May 2026	Representatives from Siem Reap City, Svay Leu Districts, Banteay Srei Districts and Relevant Communes/Sangkats Attendees: 18 (Female: 7)	Siem Reap City Hall	Consultation on proposed outcomes, outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender responsive measures.	• Discussed community priorities, challenges, and needs, particularly for women and vulnerable groups including persons with disabilities, children, and the elderly. • Clarified the number of target beneficiaries and gender-disaggregated data.
18 May 2026	Representatives from MoE, Provincial administration and departments, city and districts, communes and Sangkats, academia, NGO/CSO, and private sector Attendees: 38 (Female: 8)	Siem Reap Provincial Hall	Consultation on proposed outcomes, outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender responsive measures and eco-tourism.	• Agreed on proposed outcomes and outputs among relevant stakeholders. • Group discussion on gender assessment • Consulted on eco-tourism for the project concept note.
19 May 2026	Target commune/Sangkat, villages and Community members Attendees: 25 (female -10)	Target Sites (Sangkat Norkor Thum, Tbaeng Commune, and Khnang Phnum Commune	Verification of specific measurable indicators for relevant outputs and gender assessment	• Updated relevant data • Confirmed the gender issues in relation to climate change at the community level.

Annex 3: Preliminary Gender Assessment Report

This preliminary Gender Assessment has been developed to provide a situational analysis of gender issues in the local context of Cambodia. Based on qualitative and quantitative evidence on gender roles, activities, needs, opportunities, challenges, and risks, it identifies the **gender-differentiated impacts of climate change**, as well as the needs and capacities of different sub-groups of women and men. It also identifies **gender-responsive measures** to address these differences and ensure that women and men have equal opportunities to build resilience, address their differentiated vulnerabilities, and strengthen their adaptive capacity through project implementation. Furthermore, the assessment ensures adherence to the Adaptation Fund Gender Policy.

This Gender Assessment is preliminary and will be revisited and expanded during the full proposal development stage to inform the project's results framework, budget, and environmental and social safeguards, ensuring that the project responds to the differentiated adaptation needs of women and men and does not contribute to gender inequality. The assessment will be updated throughout the project lifecycle. A comprehensive Gender Action Plan and gender-targeted indicators will be developed during the full proposal stage through consultations with relevant government agencies, women's cooperatives, and community-based organisations to promote gender equality, strengthen women's leadership, and enhance resilience to climate change-related risks.

PREPARATORY CONSULTATION PROCESSES

Field missions and stakeholder consultations were conducted in May 2026 using a gender-sensitive methodology to engage diverse local stakeholders, particularly women, youth, and persons with disabilities. The objective was to assess gender-differentiated climate vulnerabilities, identify gender-responsive adaptation measures, promote equitable access to project benefits, and ensure adherence to the Adaptation Fund's principles of social inclusion and gender equality. All relevant sub-national stakeholders, including men, women, youth, persons with disabilities, and the elderly, were invited to participate. Despite efforts to achieve at least 30% female participation, representation of women and other marginalised groups remained limited due to the male-dominated context of government institutions, local authorities, and community committees.

Stakeholder Consultations: **6th May 2026**

Three meetings with relevant stakeholders were conducted to clarify the targeted beneficiaries including feasible female ones and to confirm the project sites and surrounding environments. The results provided full support on proposed outcomes and outputs within the needs of people in Siem Reap province, in particular on how the project is designed to give more ownership to the community levels. Though, there was advised to further gather relevant stakeholders and discuss together.

Stakeholder Consultation: **18th May 2026**

Upon the recommendation drawn from the last mission, Siem Reap Provincial Administration, UN-Habitat, and MoE co-organised a consultative meeting on 18 May 2026. 38 participants (female 20%) gathered to provide inputs on proposed outcomes and outputs corresponding to the target sites and to gather relevant information as well as the discussion discuss the adverse impacts of climate change on different groups of beneficiaries and the required prevention, as summarized below table.

SUMMARY RESULTS

Climate change impacts in Siem Reap are multidimensional, affecting cultural heritage, local economies, ecosystems, and social well-being. Heatwaves and droughts reduce rice yields while intense rainfall events damage roads, homes, and occasionally heritage structures (ADB, 2022). Combining the desk reviews and group discussions during the meeting on 18 May 2026, the impacts and responsive adaptive measures in Siem Reap province are summarised below:

Category	Gender-Differentiated Climate Impacts	Tailored Gender-Responsive Adaptation Measures
Male	• Income loss due to their dependency on climate-vulnerable agricultural practices. • Migration due to reduced incomes from agriculture	• Capacity-building activities for livelihood diversification and resilient agriculture techniques. • Advocacy for shared unpaid responsibilities at home.
Women	• Income loss due to their dependency on climate-vulnerable agricultural practices and informal tourism services. • Less access to information, market, public facilities, and livelihood resources due to floods and limited accessibility. • Exposure to GBV risks and increased unpaid care and domestic work during climate-related disasters. • Adverse effects on women's health, food security, and mental well-being, especially among rural and poor households.	• Capacity-building activities for livelihood diversification and impacts/preparedness. • Accessible meeting locations/ times and transportation and childcare services provision. • Strengthen women's leadership, access to clean energy, climate finance, technology, and climate information • Gender-responsive climate policies to ensure women's equal participation in climate decision-making, adaptation planning, disaster risk reduction, and green economic opportunities.
Youth/ Children	• Absence from schools due to limited accessibility and lacks adaptive measures at schools. • Risk of food insecurity and clean drinking water. • Health issues/ diseases due to insufficient WASH facilities (e.g. latrines without a proper septic tank). • Risk of death/ health issues from flooding/extreme heat	• Provide WASH facilities at the climate-vulnerable communities. • Improve the school access routes resilient to flooding. • Retrofitting school buildings and homes to climate-resilient (e.g. extreme heat, flooding, and strong winds) • Public awareness for disaster risk reduction and preparedness
People with disabilities	• Difficulty accessing clinics and medicines due to limited accessibility and climate-vulnerable pathways.	• Improve pathways and road segments with proper drainage systems, including garbage trapping systems, to avoid/minimize flooding risks.
Private Sector	• Increased price of agricultural products as the main inputs for service delivery • Cancelled trips affected by extreme climate events	• Develop resilient supply chain • Promote the discount rate for tourists during affected seasons

KINGDOM OF CAMBODIA
Nation Religion King

Ministry of Environment
Nº : 4210 / 0626 MoE

Phnom Penh, 2 June 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: secretartiat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Locally Led Adaptation Concept Note on Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia.

In my capacity as designated authority for the Adaptation Fund in Cambodia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Cambodia. The proposal directly supports the objectives outlined in Cambodia's Climate Change Strategic Plan (CCCSP) 2024-2033, Long-Term Strategy for Carbon Neutrality (LTS4CN) and Cambodia's Nationally Determined Contribution (NDCs3.0), enhance sustainable livelihoods and climate resilience of communities in the heritage-protected areas of Siem Reap Province by 2030 through the implementation of community-led nature-based solutions, while strengthening the capacity of local authorities and community groups to undertake risk-informed planning, sustainable resource management, and ecosystem stewardship.

Accordingly, I am pleased to endorse the above LLA Concept Note with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Human Settlements Programme (UN-Habitat) and executed by the Ministry of Environment (MoE) of Cambodia.

I sincerely hope that this proposal will be considered favorably by the Adaptation Fund.

Yours sincerely,
For Minister

CHUOP Paris, PhD
Secretary of State

Revised PFG Submission Form[1] (additions in red)

Project Formulation Grant (PFG)

Submission Date: 24th Jun 2026

Adaptation Fund Project ID:
Country/ies: Cambodia
Title of Project/Programme: Strengthening Community-Led Climate Adaptation and Resilient Livelihoods in the Angkor-Phnom Kulen Heritage Landscape, Cambodia
Type of IE (NIE/RIE/MIE): Multilateral Implementing Entity
Implementing Entity: United Nations Human Settlements Programme (UN-Habitat)
Executing Entity/ies: UN-Habitat

A. Project Preparation Timeframe

Start date of PFG	October 2026
Completion date of PFG	April 2027

B. Proposed Project Preparation Activities ($)

The US$120,000 of a Project Formulation Grant (PFG) will support the development of a Full Project Proposal of Locally Led Adaptation (LLA). Rather than a conventional top-down formulation process, this PFG embodies a business-unusual approach: one that devolves decision-making authority to the lowest appropriate level, addresses the structural inequalities faced by women, youth, persons with disabilities and forest-dependent communities, and invests in the institutional capabilities of local actors from the outset. Preparation activities will be grounded in bottom-up, participatory processes that integrate local and traditional knowledge with scientific evidence, ensuring that the full proposal reflects the lived realities and self-defined priorities of the most vulnerable communities in Krong Siem Reap, Svay Leu, and Banteay Srei districts. All consultation and field assessment processes will apply inclusive design principles, accounting for the care responsibilities of women, the geographic remoteness of forest protection communities, and the need for Free, Prior and Informed Consent (FPIC) processes. The grant will fund targeted stakeholder consultations, field missions, detailed technical studies, log frame and results framework development, an environmental and social impact assessment, and full proposal consolidation – all implemented in close collaboration with the Department of Climate Change under the Ministry of Environment and with community institutions as active partners.

List of Proposed Project Preparation Activities	Output of the PFG Activities	US$ Amount	Budget note[2]
Inclusive stakeholder consultations and co-design workshops to validate and strengthen the project design,	Workshop reports; validated and community endorsed project design;	15,600	Participatory co-design workshops held across target districts in Siem Reap, co-facilitated

[1] As presented in AFB/PPRC.33/40 Annex 1.

[2] The proposal should include a detailed budget with budget notes indicating the break- down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

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locally led implementation arrangements, and governance structures, with dedicated sessions for women, youth, persons with disabilities and forest communities, scheduled outside care hours and held in accessible locations.	documented CIA structures; disaggregated participation records		with Ministry of Environment and local community institutions. Separate sessions for women and vulnerable groups with be scheduled to remove participation barriers and ensure their priorities meaningfully shape the project design.
Inclusive field missions to target communities to validate project design, institutional capacity assessment of local stakeholders, and document local and traditional knowledge with on-site consultations for remote and forest-dependent communities, dedicated engagement with women outside care hours	Field mission report; institutional capacity assessment; documented local and traditional ecological knowledge; FPIC screening findings; gender-disaggregated community priorities	20,000	UN-Habitat and MoE teams will conduct field visits to the project locations. Government presence managed sensitively where communities require independent spaces for open dialogue
Detailed analysis and co-development of project components, outputs, and activities explicitly aligned with the eight LLA principles - embedding devolved decision-making structures, inclusive governance arrangements, gender-responsive design, and locally led implementation mechanisms across all components, and integrating findings from community consultations, field missions, and local knowledge documentation	Well described and LLA aligned project components, outputs, and activities; CIA frameworks and community governance structures defined; gender-responsive measures embedded across outputs	20,000	Desk work led by experts in close coordination with community councils, and the Ministry of Environment. Analysis will draw directly from consultation and field mission findings to ensure components reflect locally defined priorities, moving beyond standard project design towards a community-driven adaptation framework.
Development of community-informed Log-frame, results framework, and budget that embeds gender-responsive indicators, and flexible adaptive management mechanisms ensuring indicators are co-	Detailed LLA-aligned project Log-frame; results framework with locally defined resilience indicators; disaggregated indicator set; Gender	15,000	Developed iteratively with community institutions, commune councils, and Ministry of Environment. Budget will transparently demonstrate direct

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developed with local actors, disaggregated by gender, age, ethnicity and disability, and that budget allocations reflect the direct flow of resources to community-level institutions	Action Plan indicators; community-based M&E framework and budget		resource flows to local actors consistent with LLA Principles 3 and 7.
Participatory Environmental and Social Impact Assessment (ESIA) integrating community-led risk identification, gender-disaggregated vulnerability analysis, FPIC process for forest protection communities, and Gender Baseline Assessment for target districts	ESIA report; Gender Baseline Assessment, FPIC process document; gender-disaggregated vulnerability findings	25,000	ESS and gender experts conducting ground assessments. FPIC and Gender Baseline Assessment findings will directly inform safeguards design and gender-responsive measures in the full proposal.
Consolidation and finalization of the full LLA project proposal, integrating all formulation findings into a coherent, community-validated submission aligned with Adaptation Fund requirements	Full project proposal developed and consultation meeting minutes	15,000	Final consolidation workshop bringing together UN-Habitat, Ministry of Environment, and community representatives to validate the full proposal before submission to the Adaptation Fund.
Implementing Entity's Management Fee (8.5%)		9,400	Oversight and supervision of PFG activities to ensure quality, compliance with Adaptation Fund requirements, and adherence to LLA principles throughout the full proposal development.
Total Project Formulation Grant		**120,000**	

The requested budget will fund a series of preparatory activities designed to develop a high-quality, context-specific full proposal aligned with the Adaptation Fund's objectives and principles. Each activity is sequenced to build progressively on community voice and local knowledge, from inclusive consultations and field missions that surface locally defined priorities, through technical analysis and safeguards assessments grounded in those findings, to a final proposal that communities have actively shaped and validated. This is a business-unusual approach that places the most vulnerable communities including women, forest-dependent households, and persons with disabilities at the centre of how this project is designed from the outset.

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1. Inclusive co-design workshops to validate the concept note and ensure community priorities shape the full proposal formulation.

The consultative stakeholders' workshops for validating the project design and gathering inputs for full proposal development are critical for ensuring that the project aligns with local needs and conditions, consistent with devolving decision-making to the lower appropriate level. There will be co-design spaces where community members, local government officials, NGOs, technical experts, and other relevant stakeholders collectively shape the project implementation arrangements, governance structures, and investment priorities.

Consistent with addressing structural inequalities, dedicated sessions will be organised separately for women, youth, and persons with disabilities, scheduled outside care hours and domestic responsibilities to remove participation barriers. Forest protection community members will be engaged at their locations rather than district centres, ensuring remoteness does not exclude their voice. Where open dialogue requires it, sessions will be managed to allow communities to speak freely without government presence.

Participation will be tracked and reported in a disaggregated manner by gender, age, ethnicity, and community group, ensuring that the composition of decision-making reflects the communities the project will serve. Outputs from all sessions will be documented in Khmer and shared back with participants, consistent with transparency and downward accountability.

2. Conducting field visits to document local knowledge, assess institutional capacity, and initiate FPIC screening across all three target districts.

The field visits will assess climate vulnerabilities, environmental conditions, and local adaptation needs while also documenting local and traditional knowledge held by communities, particularly the five forest protection communities, integrating this alongside evidence into project design.

These visits will be designed to reach the most excluded groups on their own terms. Women's consultations will be scheduled outside care hours. Visits to forest protection communities and informal settlements will be conducted on-site, recognizing that remoteness should not exclude the most vulnerable.

Field missions will also assess the institutional capacity of Community Development Councils, forest protection communities, and commune councils to lead implementation, and initiate FPIC screening for forest protection communities. All findings feed directly into the ESIA, Gender Baseline Assessment, and component design.

3. Analysis and co-development of project components, outputs and activities.

Building directly on findings from stakeholder workshops and field missions, this activity will translate community-defined priorities and local knowledge into a coherent set of project components, outputs, and activities. The analysis will ensure that each component reflects the structural realities and adaptation needs identified by the most vulnerable groups in target communities.

Experts will work in close coordination with community institutions, commune councils, and the Ministry of Environment to define CIA frameworks, community governance structures, and gender-responsive measures across all outputs and activities. FPIC process requirements identified during field missions will be integrated into the relevant components. The result will be

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a project architecture that is locally grounded, socially inclusive, and technically coherent, ready to feed directly into log-frame and results framework development.

4. Development of project log frame, results framework, and budget.

The project log frame and results framework will involve defining the project's goal and objectives, developing a logical framework matrix capturing the hierarchy of results (impact, outcomes, outputs, activities, inputs), establishing indicators and means of verification, identifying assumptions and risks, visually representing the logical linkages between project components, engaging stakeholders for validation, and implementing a monitoring and evaluation plan to track progress and make necessary adjustments, ensuring the project is well designed, effectively managed, and capable of delivering sustainable benefits to vulnerable communities. The process will ensure that indicators reflect locally defined measures of resilience rather than donor-driven metrics alone. Indicators will be disaggregated by gender, age, ethnicity, and disability, and will incorporate Gender Action Plan targets and FPIC milestones where relevant, consistent with LLA principle 2.

Developing a detailed and transparent project budget will involve several key steps to ensure comprehensive financial planning and resource allocation, with CIA-linked financing architecture reflecting the project's commitment to accessible and predictable funding for local actors. First, this activity will detail and categorize all necessary components of the project, such as baseline data collection, capacity building, community engagement, infrastructure development, monitoring, and evaluation. Each category will be broken down into specific activities, with estimated costs for personnel, materials, equipment, travel, and administrative expenses. A community-based M&E framework will be embedded from the outset, supporting adaptive management and downward accountability throughout implementation.

5. Environmental and Social Impact Assessment (ESIA) of the proposed project.

The Environmental and Social Impact Assessment (ESIA) will evaluate potential environmental and social impacts of the project to ensure that project investments do not adversely affect ecosystems, heritage landscapes, or vulnerable communities. This assessment will cover natural resources, biodiversity, water systems and land use, with findings informing mitigation strategies and safeguard design in the full proposal.

A Gender Baseline Assessment will be conducted across target districts to establish gender-differentiated climate vulnerabilities, access to resources, and participation constraints, providing the evidential foundation for the projects Gender Action Plan. A FPIC process will be initiated for forest protection communities to ensure their rights are fully respected in project design.

All assessments will be conducted in a participatory manner, with findings validated by community institutions and local authorities before feeding into the full proposal.

6. Consolidation and finalisation of the full LLA project proposal.

The full project proposal will consolidate all findings from preceding formulation activities, community consultations, field missions, component analysis, log frame development, and ESIA, into a coherent, technically rigorous, and community-validated submission that demonstrates adherence to the LLA Principles throughout.

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The proposal will clearly articulate the project's theory of change, results framework, budget architecture, environmental and social safeguards, and gender-responsive measures, drawing directly from the Gender Baseline Assessment, FPIC process findings, and locally defined resilience indicators developed during formulation. It will transparently demonstrate how decision-making authority, resources, and accountability are devolved to community institutions, and how the CIA mechanism enables direct and accessible financing to local actors.

A final consolidation workshop will bring together UN-Habitat, the Ministry of Environment, community representatives, and key local stakeholders to review and validate the proposal before submission. This step ensures that the communities of Krong Siem Reap, Svay Leu, and Banteay Srei recognise their priorities, knowledge, and governance arrangements reflected in the final document, consistent with transparency, accountability, and collaborative action.

The proposal will be submitted in full compliance with Adaptation Fund requirements, the Environmental and Social Policy, and the Gender Policy.

Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation.

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Raf Tuts		06/24/2026	Odicea Angelo Barrios	(81-92) 724-7121	odicea.angelobarrios1@un.org

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STAKEHOLDER CONSULTATION REPORT

Locally Led Adaptation (LLA) Concept Note — Adaptation Fund

"Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia"

Prepared by UN-Habitat in cooperation with the Ministry of Environment (MoE)
Concept Note Phase Consultations: 05–19 May 2026

1. Introduction

Considering the successful implementation of the first Adaptation Fund project that ended in December 2025, and the call of the Adaptation Fund for new project proposals, UN-Habitat in cooperation with the Ministry of Environment (MoE) started to draft two concept notes targeting Kampong Speu's protected areas and Siem Reap's Angkor areas.

Additional data collection is vital to gather sufficient evidence to identify the appropriate target beneficiaries and to design specific project components and activities tackling the existing social challenges.

Dedicated specifically to the compilation of the concept note in Siem Reap, entitled "Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia", the UN-Habitat CO team - including Mr. Sok Vanna, Country Programme Manager, and Ms. Piseth Sensamras, Project Officer, with the support of Mr. Jun Fujihira, Resource Person - conducted a field mission to Siem Reap province in order to consult with local authorities, collect relevant information and data, understand challenges, and capture their requirements in order to prepare the proposed concept notes.

2. Objectives

The field mission in Siem Reap province was conducted on 05–07 May 2026 with the objectives:

- To meet relevant local authorities and communities to understand their challenges, needs, and ongoing interventions.
- To collect relevant information and data, including maps and photos.
- To draft the LLA concept note for the future Adaptation Fund projects.

The consultations sit within a broader, inclusive and iterative process led by the MoE with technical support from UN-Habitat. Consultation findings directly informed the selection of priority adaptation investments - including water retention, ecosystem restoration, and eco-tourism-based livelihood diversification - and engaged government officials, technical experts, and forest management community representatives at national, sub-national, and local levels. Initial consultations began in mid-June 2025 (Pre-Concept Note Phase) and continued through mid-May 2026 (Concept Note Phase).

3. Summary of Concept Note Phase Consultations

The table below records the stakeholder meetings held during the Concept Note Phase. It covers the three consultations held during the 5–7 May 2026 field mission, together with the **18 May 2026 multi-stakeholder validation workshop** and the **19 May 2026 community-level verification** at the target sites.

Date	Stakeholder	Venue	Objective	Outputs
06 May 2026	**Representatives from Siem Reap Provincial Administration**	Provincial Hall	Consultation on proposed outcomes and outputs in Siem Reap	• Discussed community challenges, priorities, and needs aligned with the

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Date	Stakeholder	Venue	Objective	Outputs
	Attendees: 4 (Female: 1)		Province, including project gender-responsive measures.	proposed project outcomes and outputs. ● Collected missing data and identified gender-responsive measures and target poor settlements. ● Recommended project focus areas including livelihood improvement, innovative ecotourism, climate-resilient agriculture, capacity building, and early warning systems.
06 May 2026	**Representative from APSARA Authority** Attendees: 5 (Female: 2)	APSARA Authority Office	Consultation on the feasibility to intervene on small-scale infrastructure improvement in the APSARA area, such as Output 2.6, and on future engagement.	● Obtained insights into ongoing activities of the APSARA Authority. ● Agreed on proposed outcomes and outputs, noting that small-scale infrastructure is feasible with regular engagement from the authority.
06 May 2026	**Representatives from Siem Reap City, Svay Leu District, Banteay Srei District and relevant Communes/Sangkats** Attendees: 18 (Female: 7)	Siem Reap City Hall	Consultation on proposed outcomes and outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender-responsive measures.	● Discussed community priorities, challenges, and needs, particularly for women and vulnerable groups including persons with disabilities, children, and the elderly. ● Clarified the number of target beneficiaries and gender-disaggregated data.
18 May 2026	**Representatives from the Ministry of Environment, provincial administration, relevant provincial departments, city and districts, communes and Sangkats, academia, non-governmental organizations and civil society, and the private sector** Attendees: 38 (Female: 8)	Siem Reap Provincial Hall	Consultation on proposed outcomes and outputs in Siem Reap Province and analysis of climate change impacts and corresponding gender-responsive measures and eco-tourism.	● Agreed on proposed outcomes and outputs among relevant stakeholders. ● Group discussion on gender assessment. ● Consulted on eco-tourism for the project concept note.
19 May 2026	**Target commune/Sangkat, villages and community members** Attendees: 25 (Female: 10)	Target sites (Sangkat Nokor Thum, Tbaeng Commune, and Khnang Phnum Commune)	Verification of specific measurable indicators for relevant outputs and gender assessment.	● Updated relevant data. ● Confirmed the gender issues in relation to climate change at the community level.

Source: Annex 2, Concept Note (Concept Note Phase consultations).

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4. Highlights from the Field Mission (05–07 May 2026)

As scheduled in Annex A, the mission went smoothly and captured the following key takeaways for concept note formulation.

4.1 Meeting with Siem Reap Provincial Officials

Held at the Provincial Hall, the meeting with Mr. Yun Line, Deputy Governor of Siem Reap Province, and representatives from the investment planning unit of the provincial administration was conducted on 06 May 2026. Mr. Sok Vanna kicked off the meeting with an introduction to UN-Habitat's experience implementing Adaptation Projects I and II in the coastal provinces of Cambodia and continued with an overview of the concept note "Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia", including its objectives, key outcomes, and outputs. The provincial representatives acknowledged UN-Habitat and MoE efforts and highlighted the updated data required for concept note formulation. Overall, the proposed outcomes and outputs are relevant, and the province suggested the following specific priorities for consideration:

- The informal settlements are mostly scattered across Siem Reap City, which the project shall target to enhance their climate resilience and livelihood. As detailed in Annex C, there are 1,837 households — equivalent to 8,527 people — living across 146 locations in the city.
- Lightning strike is the most critical disaster that has killed people; the project shall further study this and potentially seek community-led investment.
- Diversification of tourism services should be enhanced under thorough assessment, aiming to strengthen livelihood.

4.2 Meeting with APSARA Authority Officials

The meeting with APSARA Authority Officials was held mainly to confirm whether the potential interventions are feasible in the APSARA protected area, in particular:

- **Output 2.6:** Flood-resilient community nature-based infrastructure solutions, including sewerage and eco-wastewater systems, constructed or improved in vulnerable settlements in Sangkat Nokor Thom. The need is confirmed, and it is recommended to continue consultation with APSARA to ensure the construction follows the requirements.
- Other capacity-building and livelihood-improvement activities shall be closely engaged with the APSARA Authority.

4.3 Meeting with Municipal/District Officials and Commune/Sangkat Representatives

The meeting was organized at the Siem Reap City Hall with representatives from Siem Reap Municipality, Svay Leu and Banteay Srei Districts, and Sangkat/Commune representatives. Overall, the proposed outcomes and outputs are relevant to enhancing community adaptive capacity.

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5. Key Information to be Incorporated into the Concept Note

The information collected during the mission is to be incorporated into the concept note. The figures highlighted in yellow indicate the specific values to be inserted at the referenced page. The final column records completion status (**Y** = incorporated).

<table>
<tr><th>#</th><th>Page</th><th>Missing figures</th><th>Completion (Y/N)</th></tr>
<tr><td>1</td><td>7</td><td>According to the most recent administrative data, these three districts have a combined population of 376,850 residents, comprising 189,577 females and 187,273 males.</td><td>Y</td></tr>
<tr><td>2</td><td>13</td><td>In particular, soft measures were deliberately designed to reinforce and sustain hard investments, which accounted for a substantial share of the overall budget, 12 per cent.</td><td></td></tr>
<tr><td>3</td><td>14</td><td>A substantial portion of the total project budget, 63 per cent, is allocated to Component 2, which focuses on climate-resilient infrastructure and livelihood promotion.
* Same as above</td><td></td></tr>
<tr><td>4</td><td>15</td><td>Please kindly add the estimation of each output referring to each outcome budget described in the pre-CN.
<table>
<tr><td>Output 1.1</td><td>US$ 96,000</td></tr>
<tr><td>Output 1.2</td><td>US$ 85,000</td></tr>
<tr><td>Output 1.3</td><td>US$ 116,000</td></tr>
<tr><td>Output 1.4</td><td>US$ 95,000</td></tr>
<tr><td>Output 1.5</td><td>US$ 188,000</td></tr>
<tr><td>Output 2.1</td><td>US$ 541,000</td></tr>
<tr><td>Output 2.2</td><td>US$ 250,000</td></tr>
<tr><td>Output 2.3</td><td>US$ 450,000</td></tr>
<tr><td>Output 2.4</td><td>US$ 699,000</td></tr>
<tr><td>Output 2.5</td><td>US$ 560,000</td></tr>
<tr><td>Output 2.6</td><td>US$ 510,000</td></tr>
<tr><td>Output 2.7</td><td>US$ 150,000</td></tr>
<tr><td>Output 3.1</td><td>US$ 205,000</td></tr>
<tr><td>Output 3.2</td><td>US$ 156,000</td></tr>
<tr><td>Output 3.3</td><td>US$ 107,000</td></tr>
</table></td><td></td></tr>
<tr><td>5</td><td>17</td><td>Do you think the following description is realistic? About 40–60% of Component 2 financing will go directly to community-level institutions.</td><td></td></tr>
<tr><td>6</td><td>18</td><td>Output 1.1: Participatory socio-economic and climate vulnerability assessments will be conducted in five poor settlements and five forest protection communities across three target districts.</td><td></td></tr>
<tr><td>7</td><td>19</td><td>Output 2.1: At least 1,242 farmers, with a minimum 50 per cent women, will receive training.</td><td></td></tr>
<tr><td>8</td><td>20</td><td>A regional nursery in Banteay Srei District will be strengthened to support the propagation of native species and ecosystem restoration activities. At least 20 nursery operators and 50 community representatives will receive training on operation and maintenance.</td><td></td></tr>
<tr><td>9</td><td></td><td>Output 2.3: The ecological condition and climate resilience of the Banteay Srei reservoir will be enhanced through sediment removal, invasive species control, slope stabilisation, and rehabilitation of approximately 2.5 km eco-trails. Installation of 100 solar lighting and visitor amenities will improve safety and usability while minimising energy costs.</td><td></td></tr>
<tr><td>10</td><td></td><td>Output 2.4: Reservoir rehabilitation in Svay Leu District will increase water availability and flood buffering capacity through sediment clearance, vegetation management, embankment</td><td></td></tr>
</table>

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#	Page	Missing figures	Completion (Y/N)
		stabilisation, and repair of water control infrastructure across around 92 hectares in Prey Phnum Mnas community.	
11		**Output 2.5:** At least 8 eco-villages will be established or upgraded.	
		Output 2.6: Nature-based wastewater and drainage systems will be improved across at least 1 km in vulnerable settlements in Sangkat Nokor Thom to manage grey water and reduce environmental pollution. ** km covering the target 13 restaurants*	
12	21	Do you also think 30% female participation is a realistic target in the target areas? **Output 3.1:** These platforms will facilitate the sharing of practical experiences, dissemination of good practices, and strengthening of cross-sectoral coordination, with a target of at least 30 per cent participation by women to ensure inclusive engagement.	
13	22	The project will **directly benefit** an estimated [NUMBER] individuals and [NUMBER] households in Krong Siem Reap, Banteay Srei, and Svay Leu Districts.	
14		**Indirect beneficiaries** include downstream communities benefiting from improved watersheds, local enterprises, tourism operators, five forest protection communities, 110 Commune Councils, and community-based organisations, all of whom will strengthen their capacity for climate-risk planning and resource management.	
15		The project will restore around 92 hectares of degraded forests and watersheds.	
16	24	63% of the budget goes to physical and ecosystem-based investments.	
17	37	Approximately 63 per cent of total financing is allocated to Component 2.	
18	41	Is it practical to target / ensure women-only consultations; ensure ≥50 per cent minimum participation for most activities?	

Table 1: Key information to be incorporated for the concept note (from the Field Mission Report).

6. Conclusion

Overall, the proposed outcomes and outputs are agreed, and the collected information shall be incorporated into the concept note as set out in Table 1 above. The Concept Note Phase consultations confirmed stakeholder alignment across provincial, municipal/district, commune/Sangkat, APSARA Authority, and community levels, and validated the gender-responsive design and eco-tourism direction of the project.

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Annex A: Mission Schedule

First Field Mission (5-7 May 2025)

Day / Time	Description	Remarks
Day One (Tue 05 May)	Travelling from Phnom Penh to Siem Reap	
Day Two (Wed 06 May) 09:00 – 10:00 10:30 – 11:30 14:00 – 17:00	Meeting with Siem Reap Provincial Officers Meeting with APSARA Officers Meeting with selected communes/Sangkat officers	Relevant data to be collected
Day Three (Thu 07 May) 08:00 – 12:00	Review and complete a Concept Note for LLA calls Return to Phnom Penh	

Second Field Mission (18–19 May 2026)

Day / Time	Description	Remarks
Day One (Mon 18 May)	Multi-stakeholder consultation / validation workshop at Siem Reap Provincial Hall - presentation of proposed outcomes and outputs, analysis of climate change impacts, gender-responsive measures, and eco-tourism.	**Attendees: 38 (Female: 8).** Ministry of Environment, provincial administration and relevant provincial departments, city and districts, communes and Sangkats, academia, NGOs and civil society, and the private sector.
Day Two (Tue 19 May)	Community-level verification at target sites (Sangkat Nokor Thom, Tbaeng Commune, and Khnang Phnum Commune) - verification of specific measurable indicators for relevant outputs and gender assessment.	**Attendees: 25 (Female: 10).** Target commune/Sangkat, villages and community members.

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Annex B: Activity Photos

Meeting with Provincial Officials — 06 May 2026





Meeting with APSARA Authority — 06 May 2026





Meeting with Municipal Officials and Relevant Sangkats — 06 May 2026





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Stakeholder Consultation - 18 & 19 May 2026

Upon the recommendation drawn from the last mission, Siem Reap Provincial Administration, UN-Habitat, and Ministry of Environment, co-organized a consultative meeting on 18 May 2026. 38 participants (female 20%) gathered to provide inputs on proposed outcomes and outputs in corresponding to the target sites and to gather relevant information as well as the discussion on the adverse impacts from climate change on different groups of beneficiaries and the required prevention as summarized in Part 3. Gender-Differentiated Climate Impacts and Tailored Gender-Responsive Adaptation Measures.





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Annex C: List of Informal Settlements

The following record lists the informal settlements in Siem Reap City referenced in Section 4.1: 1,837 households, equivalent to 8,527 people, living across 146 locations.



ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

ខេត្តសៀមរាប
រដ្ឋបាលក្រុងសៀមរាប

តារាងចំនួនសំណង់បណ្តោះអាសន្នក្នុងក្រុងសៀមរាប ឆ្នាំ២០២៣

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១	សាលាកំរើក	១៦	១៣៧	១៤១	៦៦៤
២	ស្វាយដង្គំ	០៩	១៨	២៤	៩៥
៣	ស្រងែ	០១	០១	០១	០៤
៤	សំបូរ	០៨	១៤	១៤	៧៣
៥	ទឹកវិល	០៣	០៦	០៦	៣០
៦	ក្របីរៀល	០៩	១៨	១៩	៩១
៧	ចុងឃ្មៀស	០០	០០	០០	០០
៨	ជ្រាវ	១១	៩៤	៩៧	៤៣៨
៩	សៀមរាប	១៥	១១៥	១១៨	៥៧៦
១០	ស្លក្រាម	៣១	៥៩១	៦៦១	៣២៤៨
១១	នគរធំ	១២	១៧២	១៩៧	៨៦៣
១២	គោកចក	២១	៥១២	៥៥៦	២៤៤៥
សរុបរួម		**១៤៦**	**១៦៧៨**	**១៨៣៤**	**៨៥២៧**

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Preliminary Gender Assessment

Locally Led Adaptation (LLA) Concept Note — Adaptation Fund

"Enhancing Livelihood and Climate Adaptation through Nature-based Solutions in Heritage Protected Areas in Siem Reap Province, Cambodia" – UN Habitat Cambodia

This preliminary gender assessment has been developed to provide a situational analysis of gender issues in the local context of Cambodia. Based on the empirical evidence in the form of qualitative and quantitative data and analysis for gender roles, activities, needs, and available opportunities and challenges or risks, this assessment will try to identify **the gender-differentiated impacts** of climate change as well as the needs and capacities for action of different sub-groups of men and women. It will identify what corresponding **gender-responsive** measures have been taken to address identified differences and to ensure that women and men have equal opportunities to build resilience, address their differentiated vulnerabilities and increase their capacity to adapt to climate change impacts through the project implementation. Furthermore, this assessment will ensure adherence to the Adaptation Fund Gender Policy.

This Gender Assessment is preliminary and will be revisited and expanded during the full proposal development phase to ensure the project's results framework, budget, and environmental and social safeguards approach are designed in a way to meet the differentiated adaptation needs of men and women, and to ensure that the project does not discriminate between men and women or contribute in any other way to gender inequality. The document will adopt an iterative process and will be updated regularly during the project lifecycle.

It should be noted that a comprehensive Gender Action Plan and a set of Gender-Targeted Indicators will be developed during the full proposal stage. These tools will explicitly outline gender-responsive measures designed to promote equality and women's leadership within project decision-making bodies, as well as to strengthen women's resilience against climate change-related risks throughout project implementation. These tools will be strengthened through consultation and feedback from representatives from specialist government ministries for women and youth and gender equality agencies, as well as local women's cooperatives and many community-based organizations.

METHODOLOGY

During the concept note stage, the formulation team engaged in comprehensive consultations with a diverse range of stakeholders, in addition to literature reviews of the existing reports and publications. This inclusive approach ensured that the project design was tailored to the requirements of disadvantaged and marginalized populations, specifically indigenous communities and persons with disabilities.

PREPARATORY CONSULTATION PROCESSES

Field missions and stakeholder consultations were conducted in May 2026. These missions utilized a gender-sensitive methodology to engage diverse local stakeholders, specifically targeting women, youth, and persons with disabilities. The objective was to assess gender-differentiated climate vulnerabilities and identify tailored, gender-responsive adaptation measures. This ensures the project promotes equitable access to benefits and adheres to the Fund's principles of social inclusion and gender equality. The meeting minutes of stakeholder consultations are attached as **Appendix 2** of the concept note.

It should be noted that the project formulation team invited all relevant sub-national stakeholders, including men, women, and the potentially excluded marginalized populations such as people with disabilities, youth, and the elderly, to the stakeholder consultations. Although the team tried to have at least 30 per cent of female participants in all meetings, there were limited female participants, as well as the potentially marginalized populations. The main reason for this trend is the male-dominated context of government institutions, local authorities, and community committees. Additional consultations will be implemented during the full proposal stage to identify the detailed gender-differentiated climate impacts and corresponding gender-responsive measures. This information will be the fundamental source to prepare the project-specific Gender Action Plan, including gender-targeted indicators.

Stakeholder Consultations: **6th May 2026**

Three meetings with relevant stakeholders were conducted to clarify the targeted beneficiaries including feasible female ones and to confirm the project sites and surrounding environments. The results provided full support on proposed outcomes and outputs within the needs of people in Siem Reap province, in particular on how the project is designed to give more ownership to the community levels. Though, there was advised to further gather relevant stakeholders and discuss together (**Appendix 2**).

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Meeting with representatives from Provincial Administration



Meeting with representatives from APSARA Authority



Meeting with district, city, commune, and Sangkat representatives

Stakeholder Consultation: **18th May 2026**

Upon the recommendation drawn from the last mission, Siem Reap Provincial Administration, UN-Habitat, and Ministry of Environment, co-organized a consultative meeting on 18 May 2026. 38 participants (female 20%) gathered to provide inputs on proposed outcomes and outputs in corresponding to the target sites and to gather relevant information as well as the discussion on the adverse impacts from climate change on different groups of beneficiaries and the required prevention as summarized in **Part 3. Gender-Differentiated Climate Impacts and Tailored Gender-Responsive Adaptation Measures**.





Stakeholder Consultations: **18th-19th May 2026**

Additional site visits and community engagement were conducted to collect missing information under relevant outputs.

SUMMARY RESULTS

1) National Gender Equality Status

In the 2022 World Economic Forum Global Gender Gap Index, Cambodia is ranked 11th in the region (out of 19 East Asia and Pacific countries) and 98th globally (156 countries) with a score of 0.690.[1] According to the Human Development Report 2021-22, Cambodia ranked 116th globally with Gender Inequality Index of 0.461.[2, 3] The Human Development Index for Cambodia in 2021 was 0.593 (0.570 for female and 0.615 for male).[4] The average annual HDI growth was 2.42 percent for the decade 2000-2010 declined to 0.85 percent for 2010-2020.

[1] World Economic Forum (2022) Global Gender Gap Report 2022
[2] UNDP (2022) Human Development Report 2021-22, p 293
[3] UNDP (2023) Breaking Down Gender Biases – Shifting Social Norms towards Gender Equality.
[4] ibid

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Table 30 Global Gender Gap Index – Overview

	Rank	2021	Rank	2022
Global Gender Gap Index	103	0.684	**98**	**0.690**
Economic participation and opportunity	46	0.729	**61**	**0.710**
Educational attainment	128	0.919	**105**	**0.996**
Health and survival	46	0.978	**42**	**0.978**
Political empowerment	126	0.111	**121**	**0.107**

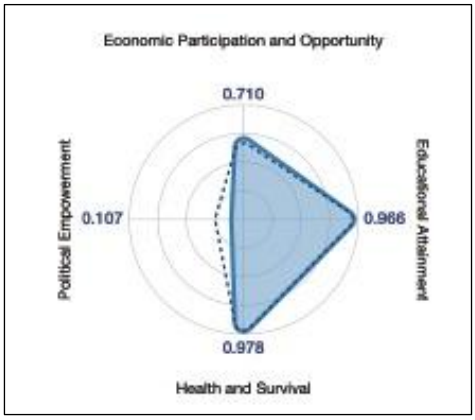


Table 31 Gender equality by sector

	Rank	Score
Health and survival		
Healthy life expectancy, years	49	1.054
Educational attainment		
Literacy rate, %	113	0.867
Enrolment in primary education, %	84	0.995
Enrolment in secondary education, %	1	1.000
Enrolment in tertiary education, %	106	0.943
Economic participation and opportunity		
Labour force participation rate, %	41	0.861
Estimated earned income, int'l $1,000	18	0.785
Legislators, senior officials, managers, %	86	0.449
Professional and technical workers, %	102	0.672
Political empowerment		
Women in parliament, %	93	0.263
Women in ministerial positions, %	124	0.103
Years with female/male head of state (last 50)	78	0.000

Cambodia has made notable progress in promoting gender equality over the past decade through national policies, legal reforms, and gender mainstreaming initiatives. The government has integrated gender considerations into key national frameworks such as the Pentagonal Strategy Phase I, Cambodia Sustainable Development Goals (CSDGs), Neary Rattanak Strategic Plan, and climate-related policies including the Cambodia Climate Change Strategic Plan and the Nationally Determined Contribution (NDC) with the Ministry of Women's Affairs, is the focal ministry to oversee the progress and advocacy.

2. Gender Context of Siem Reap Province

Increases in extreme weather conditions such as increased temperature, droughts, storms, and floods, which are also experienced by Siem Reap—are already altering economies, economic development, and patterns of human migration, and are likely to be among the biggest global health threats this century. Everyone will be affected by these changes, but not equally. Vulnerability to climate change will be determined by a community or the ability of the individual to adapt.[5]

The female population in Siem Reap Province is 50.51 percent, with 12.67 percent being Female-Headed Households (FHH).[6] As in other parts of the country, in Siem Reap, women face challenges due to social reasons and roles in the household and are more likely to experience increased unpaid care and domestic work during climate-related disasters, including caring for sick family members, collecting water, and managing household recovery while often face greater barriers to accessing climate information, finance, land ownership, and productive assets, limiting their

[5] Care International (2010). *Adaptation, Gender and Women's Empowerment*. Care International Climate Change Brief. www.careclimatechange.org/files/adaptation/CARE_Gender_Brief_Oct2010.pdf
[6] *Provincial Socioeconomic Report 2023*, Siem Reap Province.

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ability to adapt and recover from climate impacts[7]. Besides, even is the major tourist destination with renown Angkor, 67.8 % remains relying on Agriculture. Women farmers are highly affected by climate change because they represent a large share of the agricultural workforce while often having lower access to modern technology, irrigation systems, and climate-resilient farming tools[8]. Therefore, supporting women to adapt is crucial.

Climate change impacts in Siem Reap are multidimensional, affecting cultural heritage, local economies, eco-system, and social well-being. Heatwaves and droughts reduce rice yields while intense rainfall events damage roads, homes, and occasionally heritage structures (ADB, 2022).

When drought or heavy rain threatens agricultural production, men can adapt by using their savings and economic independence to invest in alternative income sources, and in times of food scarcity and drought, women will often give priority to their husbands and family members nutritional needs before hers.[9] According to reports from the Cambodia Humanitarian Response Forum (CHF), in September/October 2022, flooding in Cambodia affected an estimated 85,482 households across 74 districts in the 14 provinces. As many as 33,165 homes have been damaged, along with 29 health centres, 280 schools, 1,600 km of rural road and 152,386 hectares of agricultural land.[10] Evidence suggests that women were more severely affected during such floods. Women were more likely to be in the home when floods hit or unable to leave because of domestic care responsibilities. The resulting disruption to health care infrastructure and service left pregnant women to deliver in very critical conditions such as flooded delivery rooms or worse and at home where immediate medical care was not available.[11] According to CARE in Cambodia, poor women and girls of are tempted to migrate to Thailand in search of work – and many fall victim to human trafficking.[12] In Siem Reap Province, the two critical underlying causes of poverty affecting young women, i.e., gender inequality and limited income generation opportunities – result in low household incomes, little knowledge of and access to markets, lack of capital, and few opportunities to improve individual capacities and skills.[13]

3. Gender-Differentiated Climate Impacts and Tailored Gender-Responsive Adaptation Measures

Combining the desk reviews and group discussions during the meeting on 18 May 2026, the impacts and responsive adaptive measures in Siem Reap province are summarized below:

Key stakeholder Category	Gender-Differentiated Climate Impacts	Tailored Gender-Responsive Adaptation Measures
Male	• Income loss due to their dependency on climate-vulnerable agricultural practices. • Migration due to reduced incomes from agriculture	• Capacity-building activities for livelihood diversification and resilient agriculture techniques. • Advocacy for shared unpaid responsibilities at home.
Women	• Income loss due to their dependency on climate-vulnerable agricultural practices and informal tourism services. • Less access to information, market, public facilities, and livelihood resources due to floods and limited accessibility. • Exposure to gender-based violence (GBV) risks and increased unpaid care and domestic work during climate-related disasters. • Adverse effects on women's health, food security, and mental well-being, especially among rural and poor households.	• Capacity-building activities for livelihood diversification and impacts/preparedness. • Accessible meeting locations and times by considering women's daily routines and responsibilities. • Consider transportation and childcare services might have to be provided for women, who are often less mobile, in order to attend meetings • Strengthen women's leadership, access to clean energy, climate finance, technology, and climate information • Gender-responsive climate policies to ensure women's equal participation in climate decision-making, adaptation planning, disaster risk reduction, and green economic opportunities.
Youth/ Children	• Absence from schools due to limited accessibility and lacks adaptive measures at schools. • Risk of food insecurity and clean drinking water.	• Provide WASH facilities at the climate-vulnerable communities. • Improve the school access routes resilient to flooding.

[7] UN-Women (2024). *Gender and Environmental Survey,* Cambodia.
[8] UN-Women (2021). *State of Gender Equality and Climate Change*, Cambodia.
[9] PRB (2012). *Women more vulnerable than men to climate change*. https://www.prb.org/resources/women-more-vulnerable-than-men-to-climate-change/
[10] https://floodlist.com/asia/cambodia-floods-september-october-2022
[11] International Bank for Reconstruction and Development (2019). *STRIKING A BALANCE MANAGING EL NIÑO AND LA NIÑA IN CAMBODIA'S AGRICULTURE*. https://documents1.worldbank.org/curated/en/433961554200320844/text/Striking-a-Balance-Managing-El-Ni%C3%B1o-and-La-Ni%C3%B1a-in-Cambodia-s-Agriculture.txt
[12] ReliefWeb (2013). Cambodia: Floods - Sep 2013. https://reliefweb.int/disaster/fl-2013-000131-khm
[13] CARE Cambodia (2022). Young Women in Business (YWIB). https://www.care-cambodia.org/ywib

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	• Health issues/ diseases due to insufficient WASH facilities (e.g. latrines without a proper septic tank). • Risk of death from flooding and health issues from extreme heat	• Retrofitting school buildings and homes to climate-resilient (e.g. extreme heat, flooding, and strong winds) • Public awareness for preparedness for disaster risk reduction measures
People with disabilities	• Difficulty accessing clinics and medicines due to limited accessibility and climate-vulnerable pathways.	• Improve pathways and road segments with proper drainage systems, including garbage trapping systems, to avoid/minimize flooding risks.
Private Sector (especially Tourism service)	• Increased price of agricultural products as the main inputs for service delivery • Cancelled trips affected by extreme climate events	• Develop resilient supply chain • Promote the discount rate for tourists during affected seasons

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