ADAPTATION FUND

PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Strengthening Adaptation and Flood and Landslide Early Warning for the HKH (SAFE NIB)

Countries: Bhutan, India, Nepal

Thematic Focal Area[1]: Disaster risk reduction and early warning systems

Type of Implementing Entity: Regional Implementing Entity

Implementing Entity: International Centre for Integrated Mountain Development (ICIMOD)

Executing Entities: International Centre for Integrated Mountain Development (ICIMOD), Asian Disaster Preparedness Centre (ADPC), and the National Disaster Management Authority (NDMA), India.

Amount of Financing Requested: 30,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes ☒ No ☐

Amount of Requested financing for PFG: USD 32,958

Letters of Endorsement (LOE) signed for all countries: 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 pre-concept has been submitted before

☐ This is the first submission ever of the pre-concept

In case of a resubmission, please indicate the last submission date: 9/12/2026

Please note that pre-concept should not exceed 5 pages (in addition to this first cover page)

[1] Thematic areas are: Food security; Disaster risk reduction and early warning systems; Transboundary water management; Innovation in adaptation finance.

Project/Programme Background and Context: Bhutan, India and Nepal face interconnected climate hazards, Glacial Lake Outburst Floods (GLOFs), landslides, riverine flooding, and droughts, driven by climate change, urbanisation and socio-economic change. The Hindu Kush Himalaya (HKH) is warming at more than double the global average rate, intensifying glacial and snow melt, destabilising slopes and shifting monsoon patterns. The region has lost over 25% of its glacier volume since the 1970s and temperatures are projected to rise a further 1.5-2.1°C by 2050. These hazards are inherently transboundary: Heavy rainfall in upstream Nepal and Bhutan frequently leads to catastrophic flooding downstream in India (e.g. Koshi 2008 and 2017; Manas 2004 and 2007; Ganges 1998 and 2004)- risk generated in one country routinely determines outcomes in another.

This is the central adaptation challenge SAFE NIB addresses: climate change is intensifying flood and landslide risk across these shared basins faster than the region's early warning and anticipatory-action systems can adapt. With no operational mechanism for cross-border sharing of impact-based forecasts, harmonised alert thresholds, or coordinated anticipatory action, the most vulnerable communities often receive warnings that are too late, too generic, or absent altogether. Nor are the impacts felt equally: women, Indigenous Peoples, persons with disabilities, and low-income households often face greater barriers to early warning information, evacuation support, and adaptation resources, and their limited representation in disaster risk management and climate decision-making compounds that vulnerability. Closing this last-mile, transboundary gap is the core challenge the regional approach is designed to address.

Meeting this challenge means building on what already exists nationally rather than replacing it. All three countries have established national DRR institutions and frameworks (detailed in Part III below): Nepal's BIPAD (Building Information Platform against Disaster) portal supports community-based flood early warning, Bhutan's Department of Local Governance and Disaster Management (DLGDM) anchors localised EWS in community and traditional knowledge, and India's National Disaster Management Authority (NDMA) anchors a comparatively well-resourced national system. None was designed for cross-border coordination, and the gaps that remain -limited cross-border information sharing and harmonised thresholds, thin impact-based forecasting, weak last-mile dissemination of warnings, and underutilised ecosystem-based solutions, are inherently transboundary and cannot be closed by a national programme alone. A country-by-country overview shows how these shared gaps take different forms:

Bhutan faces growing climate risks from GLOFs, flash floods, and landslides driven by its rugged Himalayan terrain and high concentration of glaciers and glacial lakes. Recent disasters like 2023 flash flood triggered by extreme rainfall and the 2021 severe monsoon rains exposed vulnerabilities in communities, infrastructure, and livelihoods, emphasising the need for strengthened glacial monitoring, impact-based early warning systems, slope stabilisation, ecosystem restoration, benefit sharing mechanisms, and community preparedness.

India faces increasing risks from recurrent flooding across the densely populated floodplains of Assam, Bihar, and West Bengal, driven by extreme monsoon rainfall and upstream hydrological processes. National forecasting systems are comparatively strong, but vulnerability remains high because access to real-time upstream risk information is limited. Strengthening transboundary information sharing, impact-based forecasting, anticipatory action, benefit sharing mechanisms, and last-mile early warning dissemination is critical to protecting exposed communities, livelihoods, and infrastructure.

Nepal faces escalating risks from recurrent floods, landslides, and GLOFs driven by fragile mountain geology, intense monsoon rainfall, and climate change. High exposure in the Koshi sub-basin, combined with remote and vulnerable communities, underlines the need for integrated early warning systems, improved last-mile dissemination, stronger institutional coordination, benefit sharing mechanisms, and anticipatory action.

The scale of what is at stake if these gaps persist is significant. The transboundary basins SAFE NIB targets sustain some of the largest and most flood-exposed populations in the HKH. Around 40 million people depend on the Koshi sub-basin for water, ecosystem services and livelihoods - roughly 10 million upstream in Nepal and more than 30 million downstream in India - with close to 8 million in the Lower Koshi River Basin specifically exposed to climate-driven flood risk. In the Manas sub-basin, seven districts of Bhutan (Sarpang, Trongsa, Zhemgang, Bumthang, Mongar, Lhuentse and Pemagatshel) fall within a flood-vulnerable zone identified from 116 historical flood events between 1968 and 2020, with impacts cascading downstream into Assam, India.

The impact figures show that human and economic toll of individual events illustrates the urgency. The 2008 Koshi (Kushaha) embankment breach affected an estimated 4.3 million people and forced over 2 million to evacuate across eight districts of Bihar, with more than 500 deaths and around 19,000 livestock lost; crop losses alone reached approximately US$18.7 million, reducing Nepal's national GDP by an estimated 0.3%, and some 223,000 houses were damaged. The 2019 monsoon floods affected around 2.5 million people across 12 districts within 24 hours. Losses have continued to mount: the 2014 June landslide-dam event in the Sun Koshi caused around

US$10.3 million in damages, while the 2017 Terai floods within the Koshi sub-basin caused an estimated US$584.7 million in damage and US$701.9 million in reconstruction costs. In the Manas sub-basin, the 2004 Tsatichu landslide-dam burst contributed to roughly US$170 million in flood losses reported by Assam state, and in the wider Ganges system the 2004 Bihar floods affected some 21 million people, caused 885 deaths and inflicted an estimated US$220–230 million in property and public damage.

These risks are intensifying rather than stabilising. ICIMOD's GLOF inventory for High Mountain Asia (1833–2024) and national disaster records show a rising frequency of GLOFs and landslides across the region since the 1990s. The underlying hazard is well characterised: of around 2,064 glacial lakes mapped across Nepal's Koshi, Gandaki and Karnali basins, 42 are classified as potentially dangerous (PDGL), while Bhutan's 2019 reassessment by the National Centre for Hydrology and Meteorology identifies 17 PDGLs, concentrated in the Pho Chhu(9), Mangde Chhu(3), Mo Chhu(2), Chamkhar Chhu(2) and Kuri Chhu(1) sub-basins.

Despite this rising exposure, cross-border cooperation remains limited to ad hoc bilateral arrangements: India and Nepal share information through different commissions and committees; India and Bhutan operate hydromet information-sharing arrangements. These have enabled, station-specific flood data transfer, but they do not extend to impact-based forecasting, landslide risk, or joint contingency planning, and they operate outside any shared institutional platform. The communities most exposed to climate-driven flood and landslide risk therefore remain outside any operational transboundary warning service.

This gap is exactly what the global disaster-risk community has identified as a priority. The Sendai Framework (2015–2030) and the Early Warnings for All (EW4All) initiative call for universal, impact-based early warnings, last-mile communication, and regional data sharing-priorities that are particularly acute in the HKH given the scale and transboundary nature of flood and landslide risks. SAFE NIB is designed to complement these efforts by building the missing operational layer: harmonised alert thresholds, joint anticipatory action protocols, and a shared regional knowledge platform (Component 4). To ensure additionality, the project will be developed in direct coordination with existing bilateral mechanisms, including formal representation of these bodies (JCWR/JCIFM and the India–Bhutan arrangements) in the project's regional governance structure. The project aligns with global frameworks and national plans across all three countries: Bhutan emphasises localised EWS and traditional knowledge integration; India's National Disaster Management Plan (NDMP) and National Action Plan on Climate Change (NAPCC) call for improved impact-based forecasting and Ecosystem Based solutions; and Nepal's National Adaptation Plan (NAP) prioritises strengthened EWS, and inclusive disaster governance.

Within this shared regional challenge, two basins offer the clearest, most evidence-based entry point, identified from existing vulnerability assessments and ICIMOD's ongoing hydrological and upstream–downstream linkage work: the Koshi sub-Basin (Nepal–India), which is highly GLOF, flood, and flash flood-prone, data-rich, and is well-suited to impact-based forecasting and anticipatory action; and the Manas Sub-Basin (Bhutan–India), with moderate data availability and more natural flow regimes useful for testing approaches in less regulated systems. Potential inclusion of Teesta sub-basins will be explored in consultation with national agencies. Final basin selection will be confirmed jointly with relevant government stakeholders from the targeted countries and technical agencies during the full concept stage.

Project/Programme objectives:

The main objective is to enhance flood and landslide resilience in the Himalayas through innovative early warning systems, resilient infrastructure, inclusive governance, and regional collaboration, aligned with climate adaptation solutions. Specific objectives are: (1) to enhance anticipatory actions through impact-based forecasting and last-mile risk communication for floods and landslide preparedness. (2) to promote hybrid climate-resilient infrastructure solutions combining engineering with nature-based interventions to reduce flood and landslide risk. And, (3) to strengthen transboundary cooperation through information sharing, harmonised forecasting protocols, and joint planning across upstream–downstream basins, the primary value-add of the regional approach.

Theory of Change

IF national and local authorities in Bhutan, India and Nepal gain access to impact-based, transboundary early warning information, and if the current cross-border information sharing, harmonised alert thresholds, and last-mile delivery channels reach vulnerable groups, women, youth, persons with disabilities and marginalised communities, **then** flood- and landslide-affected communities across the HKH's shared river basins will take timely anticipatory action that reduces loss of life, assets and livelihoods, with disaster risk reduction embedded in resilient regional and national systems.

This will be achieved by: (i) **Component 1**, which builds an operational impact-based forecasting system on shared hydrological and climate data, giving national and local authorities the transboundary information needed to issue timely warnings; (ii) **Component 2**, which builds the community-level skills, sensor networks and inclusive governance structures needed for vulnerable groups to receive and act on those warnings; (iii) **Component 3**, which reduces physical exposure through hybrid engineered and nature-based infrastructure, lowering risk even where warning lead times are short; (iv) **Component 4**, which establishes the regional knowledge platform and harmonised cross-border protocols that let information and lessons flow between countries; and (v) **Component 5**, which builds and sustains the institutional and community capacity, and behaviour change, needed to trust and maintain these systems over time. Together, these interventions will lead to functioning transboundary, impact-based early warning systems that government authorities use and that at-risk communities understand and act on, resulting in reduced loss of life, assets and livelihoods from floods and landslides, and strengthened institutional resilience across the HKH's shared river basins.

Key assumptions include: (i) national hydromet agencies are willing to share real-time upstream information under agreed protocols, the binding assumption, since without it Component 1's forecasts cannot be transboundary, with mitigation consisting of the joint governance structure and harmonised information-sharing protocols developed under Component 4, which formalise exchange rather than relying on ad hoc goodwill; (ii) community volunteer structures and local institutions remain functional and adequately resourced to sustain last-mile delivery, mitigated by Component 5's capacity-building activities and Component 2's co-designed, institutionally embedded governance structures; and (iii) that government co-financing sustains systems post-project, mitigated by structuring all technical systems for handover to existing national platforms from the outset, with recurrent operating costs progressively absorbed into national budgets and institutional ownership established during implementation rather than at close-out.

The country-specific climate risks set out above led to the identification of the following country-specific components and solutions. In Bhutan, Component 1's catchment risk maps and EWS models, paired with Component 2's community sensor networks, aim to close the environmental and social coverage gap, extending reliable warning beyond pilot valleys to protect remote communities and reduce undetected GLOF and landslide losses. In India, Component 1's impact-based forecasting (built on upstream data) and Component 4's cross-border protocols aim to convert India's existing forecasting capacity into actionable lead time, reducing the scale of economic damage and displacement seen in past floods (e.g. the 2008 Koshi breach, 2004 Bihar floods) without duplicating national systems. In Nepal, Component 2's inclusive EWS committees and Component 5's capacity building aims to address the last-mile and institutional-fragmentation gap in the Koshi sub-basin, while Component 3's hybrid, nature-based infrastructure seeks to reduce landslide-related economic and social losses in exposed mid-hill districts.

Project/Programme components and financing:

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (USD)
1. Innovation in integrated risk management, and impact based early warning systems.	National and local authorities take anticipatory action using integrated and impact-based EWS for decision-making.	1.1 Impact-based flood and landslide risk maps at catchment scale, incorporating downscaled climate projections and socio-economic vulnerability.	Bhutan, India, Nepal	1,135,000
		1.2 Catchment-based integrated and inclusive early warning system incorporating nature-based solutions.		1,135,000
		1.3 Operational impact-based forecasting system delivering 6–72-hour actionable lead times, built on a multi-model hydrological and inundation framework with CMIP6 climate inputs, interoperable with relevant government organizations like IMD, CWC, DHM, NCHM and existing ICIMOD systems.		2,270,000
2. Inclusive Early Warning Systems for All	Communities, especially vulnerable groups, use early warnings to take timely action for	2.1 Community-based early warning systems established in pilot sites, integrating low-cost sensors with hydromet networks for real-time community-based monitoring.	Bhutan, India, Nepal	2,000,000

	preparedness. Local DRR institutions and school systems adopt inclusive EWS practices.	2.2. Trained community disaster volunteer networks — building on Aapda Mitra in India and equivalent structures in like NDRRMA's youth volunteers in Nepal and DLGDM, Bhutan — and functioning inclusive EWS committees with meaningful participation of women, people with disabilities and marginalised groups.		1,500,000
		2.3 DRR integrated into school curricula in pilot districts, with trained teachers and student-led preparedness activities.		750,000
		2.4 Youth and women-led innovation hubs piloted to co-design locally appropriate EWS tools, alert formats, and last-mile delivery mechanisms.		750,000
3. Resilient Infrastructure & Adaptive Design	Local governments adopt resilient infrastructure designs protecting vulnerable communities, integrating engineered and nature-based approaches for durability, safety, and environmental stability.	3.1 Flood and landslide risk reduction activities piloted in vulnerable sites, with hybrid engineered and nature-based infrastructure (riverbank stabilisation, drainage improvement, ecological restoration, bioengineering, and vegetation for slope and soil stability etc).	Bhutan, India, Nepal	5,600,000
		3.2 Technical manuals and design guidelines for climate-resilient and hybrid infrastructure, adapted to local conditions and accessible to sub-national engineers and planners.		400,000
		3.3 Retrofitting and adaptive design options demonstrated at selected vulnerable sites, with documentation of lessons for replication/scaling.		1,600,000
		3.4 Shared standards and protocols for resilient, hybrid engineered and nature-based infrastructure developed in coordination with relevant entities, ensuring alignment and avoiding duplication across regional investments.		400,000
4. Regional Knowledge Sharing	- Regional and national stakeholders use shared information, platforms, and policy recommendations to inform DRR strategies. - Funding agencies; development partners recognize and support transboundary DRR initiatives.	4.1 Regional DRR knowledge hub (HKH DRR Hub) operational with dashboards and knowledge products.	Bhutan, India, Nepal	1,700,000
		4.2 Policy briefs and advocacy tools for transboundary DRR investment.		430,000
		4.3 Annual regional learning and policy forum.		1,067,000
		4.4 Cross-border protocols and operational mechanisms for joint contingency planning, shared thresholds, and coordinated alerts across the sub-basin countries in Koshi and Manas.		1,068,305
5. Capacity Building, Awareness, and Communication	- National training institutes integrate modules into their programs. - Media and youth champions promote DRR practices across borders. - Awareness campaigns shift behaviour in high-risk areas.	5.1 Certified DRR training curricula developed and institutionalised within national training systems in all three countries, covering multi-hazard risk, early warning, and community preparedness.	Bhutan, India, Nepal	700,000
		5.2 Technical training delivered to sub-national engineers and planners on climate-resilient and hybrid infrastructure design, with cross-country peer exchange-built in.		525,000
		5.3 South-South learning exchanges and regional peer networks established, connecting DRR practitioners, government officials, and researchers across Bhutan, India, and Nepal.		525,000
		5.4 Targeted behaviour change communication campaigns developed and deployed in high-risk communities, with materials in local languages and formats suited to low-literacy audiences.		875,000

		5.5 Regional media and youth recognition programme established to champion DRR practices and amplify community-level early warning culture.		350,000
		5.6 National research and academic institutions strengthened as long-term custodians of project outputs — including G.B. Pant National Institute of Himalayan Environment (GBPNIHE) and Wadia Institute of Himalayan Geology (WIHG) in India, Tribhuvan University, Kathmandu University, and Nepal Administrative Staff College (NAST) in Nepal, and the College of Natural Resources and relevant research bodies (Bhutan) — through curriculum embedding, applied research collaboration, and practitioner–academia partnerships.		525,000
6. Project/Programme Execution cost (9.5% of total programme cost, 1.5% of executed portion if IE is EE)				
7. Total Project/Programme Cost				1,967,423
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (8.5% of the total programme cost)				27,272,728
				2,727,272
Amount of Financing Requested				**30,000,000**

Project Duration: *5 years*

Here below is a brief on what will be financed in each component:

- **Component 1:** hydrological/inundation modelling licences and technical staff time, downscaled climate data products, risk-mapping consultancies, and the software/hardware integration needed to make the forecasting system interoperable with IMD/CWC/DHM/NCHM.
- **Component 2:** sensor procurement, volunteer training and stipends/materials, curriculum development and teacher training, and seed funding/mentoring for youth- and women-led innovation hubs.
- **Component 3:** civil works and bioengineering materials, labour for pilot sites, technical design consultancies, and coordination costs for joint standard-setting.
- **Component 4:** knowledge hub platform development and hosting, policy-brief production, the annual regional forum (venue, travel, facilitation), and facilitation of cross-border protocol negotiations.
- **Component 5:** curriculum development and institutional certification costs, technical training delivery and peer-exchange travel, Training for Trainers (ToT) behaviour-change campaign production/dissemination, and the media/youth recognition programme.

PART II: PROJECT/PROGRAMME JUSTIFICATION

Climate resilience and added value: SAFE NIB seeks to enhance climate resilience across Bhutan, India, and Nepal through a regional DRR programme addressing recurring floods and landslides. It focuses on impact-based EWS, ecosystem and nature-based solutions for slope, bank and watershed management, and community-centred governance for disaster preparedness and recovery. These adaptation activities will build systemic resilience by bridging upstream-downstream linkages, creating cross-border communication, and improving coordination in river basins that transcend national boundaries. The project's primary added value is transboundary: it links India's national DRR systems with upstream risk information from Nepal and Bhutan, enabling two-way information exchange, shared alert thresholds, and coordinated anticipatory action across shared river basins-benefits impossible to achieve through isolated national interventions. National activities will be implemented through and aligned with existing systems, not parallel to them.

For India, the regional approach provides earlier access to upstream hydrological and glaciological data from Nepal and Bhutan, the only realistic source of additional lead time for floods that materialise downstream in Bihar, Assam and West Bengal, since India's own monitoring networks cannot observe hazard formation occurring upstream of the border. In exchange, India's comparatively advanced forecasting capacity (IMD, CWC, FloodWatch India) is made available regionally, strengthening Bhutan's and Nepal's own forecasting products. This two-way exchange, not available under any purely national programme is the specific benefit the regional approach delivers.

Innovation and new approaches: The project introduces practical community-centred innovations, including impact-based forecasts that convert rainfall and flood predictions into crop, livestock, and mobility advisories, and local early warning delivery through community radio, SMS groups, and women-led alert networks. It strengthens hybrid knowledge systems by combining traditional flood and glacial change indicators with satellite and hydrological data, and pilots catchment-based risk management in high-risk areas. Youth and women-led innovation hubs and community co-creation labs will produce low-cost sensors, alert in different languages and formats, and locally tailored preparedness tools, driving an inclusive and anticipatory climate action, particularly for marginalised and hard-to-reach populations.

In Component 1, "innovation" specifically means coupling multi-model hydrological and hydrodynamic forecasting (e.g. HEC-HMS rainfall-runoff and HEC-RAS hydraulic routing) with downscaled CMIP6 climate projections to generate 6–72-hour impact-based forecasts, i.e., forecasts expressed as expected impacts on people, livelihood, infrastructure, and economies rather than rainfall or river-stage thresholds alone, interoperable with government systems across the countries. In Component 2, "inclusive" means EWS design and governance that deliberately builds in the participation, alert formats and last-mile channels needed to reach women, youth, persons with disabilities and marginalised groups, rather than assuming a single generic warning reaches all groups equally.

Cost-Effectiveness of the regional approach: SAFE NIB will ensure cost-effectiveness by enabling joint investments in shared infrastructure, tools, and institutional capacity across countries avoiding redundancy and maximising economies of scale, while standardised regional protocols streamline operations and minimise transaction costs across borders. The World Bank and UNDRR estimate that every USD 1 invested in early warning saves USD 6–10 in avoided losses, while NbS such as ecosystem reforestation to reduce flood damages by up to 35–40%.

Alignment with national and regional strategies: The programme reflects key priorities in each country's NAP/NDC. In India, it directly supports NDMP and NAPCC goals on impact-based forecasting, NbS adoption, and last-mile communication, and complements Mission Mausam's enhanced weather observation agenda. In Bhutan, it supports localised EWS and community-based preparedness and climate-resilient infrastructure utilizing hybrid solutions. In Nepal, it supports NDRRMA's BIPAD portal, advances EWS strengthening and inclusive adaptation. Regionally, it supports the SAARC DRR Framework and HKH Call to Action. Globally, it aligns with the Sendai Framework for Disaster Risk Reduction (2015-2030) and the Early Warnings for All (EW4All) initiative.

SAFE NIB contributes directly to the Adaptation Fund's Disaster Risk Reduction and Early Warning Systems thematic focal area by strengthening impact-based forecasting, last-mile risk communication, and community and institutional preparedness across Bhutan, India and Nepal (Components 1, 2 and 5). Given its central focus on shared river basin management, cross-border information sharing, and joint contingency planning across the Koshi and Manas sub-basins (Components 1 and 4), the project also has strong secondary linkages to the Transboundary Water Management thematic focal area; ICIMOD will consult the Secretariat at full proposal stage on whether dual tagging across both focal areas would be appropriate.

Learning and knowledge management: Learning and knowledge sharing will be central to the programme, with Component 5 dedicated to this. The project will generate and share actionable knowledge to influence adaptation

policy and practice and to ensure its lessons inform wider regional efforts and contribute to long-term resilience building. Lessons will be captured through periodic learning reviews, case documentation, and monitoring insights, and synthesised into standardised formats for direct submission to the Adaptation Fund Knowledge Platform, ensuring visibility and wider learning uptake. Special focus will be given to gender-responsive youth and women-led innovations.

Consultative process and gender considerations: An inclusive consultative process will be conducted during project preparation in all three countries, engaging vulnerable and marginalised groups, especially women, youth, indigenous peoples, and persons with disabilities. Full proposal consultations will engage NDAs, NDMAs, hydromet departments, and civil society in each country. All consultation processes will follow the principles of free, prior, and informed consent, in line with the Adaptation Fund's Environmental and Social Policy. Stakeholder engagement to date has included scoping discussions with NDMA, NDRRMA, DLGDM and other agencies. Consultation findings will directly inform activity design, site and beneficiary selection and implementation arrangements, and consultations will continue during implementation in line with the Fund's Environmental and Social Policy and Gender Policy. Detailed account of consultations with GoI is as below.

Consultation / feedback	**Date**
Proposal presented to DNA, AF Office, MoEFCC	26 Nov 2025
MEA, MoEFCC clarifications	30 Dec 2025
MoEFCC clarifications	7 Jan 2026
Adaptation Cell, MEA comments	25 Feb 2026
Mountain Division comments on pre-concept note	23 Apr 2026
DST comments	5 May 2026
Comments from Ministry of Earth Sciences	7th May 2026

Sustainability of outcomes: Sustainability is anchored in institutional ownership, integration with national systems, and use of existing capacities. Outputs-training curricula, tools, and protocols, will be embedded in national institutions across all three countries: NDMA, SDMAs, DDMAs, and NIDM in India; NDRRMA and DHM in Nepal; and DLGDM and DGM in Bhutan. Concretely, sustainability is designed in through three mechanisms: (1) all technical systems (forecasting models, knowledge hub, training curricula) are built on and handed over existing government platforms (BIPAD, DHM, IMD/CWC systems), co-organised by the countries themselves rather than run as ICIMOD-parallel systems, with recurrent operating costs progressively absorbed into national hydromet and DRR budgets over the project period; (2) national counterpart institutions co-design tools from the outset (Components 1, 2 and 5) so that ownership is established during implementation, not only at close-out; and (3) Component 5.6 embeds project methods in academic/research institutions (GBPNIHE, WIHG, Tribhuvan University, NAST, College of Natural Resources) so technical capacity persists even amid government staff turnover. A comprehensive sustainability plan with institutional ownership, cost sharing arrangements, and a results framework with baselines and targets will be developed at full proposal stage.

Economic, social, and environmental benefits: The project aims to deliver economic co-benefits (reduced losses, livelihood security), socially, it will promote inclusive governance, gender equity, youth innovation and empowerment of marginalised communities (ESP 4 and 5). Environmentally, it will deal with NbS, which will involve among others, soil stabilization, and biodiversity protection (ESP 9, 10 and 15). Risk mitigation measures will be incorporated to avoid adverse impacts and ensure compliance with the Adaptation Fund's safeguard policies (ESP 12 and 13).

Compliance with technical standards and safeguards: All activities adhere to national technical standards and the Adaptation Fund's Environmental and Social Policy. An Environmental and Social Management Framework (ESMF) will be developed to screen, assess, and mitigate potential risks throughout the project.

Avoiding duplication and leveraging synergies: SAFE NIB complements rather than replaces existing national systems, working with CWC/Flood Watch India/IMD (India), DHM's existing forecasting systems (Nepal), DGM (Bhutan) for data interoperability. It builds on community volunteer structures (Aapda Mitra in India, community-based EWS networks in Nepal and Bhutan) for last-mile delivery, and coordinates with CDRI on resilient hybrid engineered and nature-based infrastructure across all countries. A detailed mapping of existing programmes will be conducted at full concept stage to clearly articulate additionality across all three countries. The project will also build on existing ICIMOD initiatives in these countries, scaling up existing projects where feasible.

Justification for adaptation funding: Existing community-based EWS are isolated, lack hydromet linkages, and have insufficient lead times. Gaps persist in NbS scaling, climate-risk integration in infrastructure, and transboundary cooperation. Adaptation Fund financing provides the critical incremental resources to address these systemic gaps.

Environmental and social risks: Environmental and social risks are low to moderate. Risks (e.g. construction disruption, exclusion of vulnerable groups) will be addressed through a robust safeguards' framework. Risk mitigation will be embedded into project design, implementation, and monitoring, ensuring equity, safety, and sustainability, which will be reviewed and updated throughout the programme.

PART III: IMPLEMENTATION ARRANGEMENTS

ICIMOD serves as the Implementing Entity (IE) and, given its long-standing regional technical presence, will also self-execute regional-level activities under Components 1 and 4 in its capacity as an Executing Entity (EE). ADPC is a regional EE, providing technical assistance across all three countries on impact-based forecasting and hybrid infrastructure design (Components 1 and 3). NDMA, India is the national EE for India-based activities. IFRC, CDRI and the national DRM agencies of Bhutan and Nepal participates as a technical/knowledge partner, not as a formal Executing Entity.

A Regional Steering Committee (RSC), co-chaired by ICIMOD and rotating national focal points from Bhutan, India and Nepal, will meet at least biannually to approve annual workplans and budgets, review progress, and resolve cross-border issues (e.g. information-sharing arrangements). A Regional Project Management Unit (RPMU), hosted by ICIMOD, will handle day-to-day coordination, fiduciary/financial management, and delivery of regional-level outputs under Components 1 and 4. At national level, National Project Coordination structures- anchored in NDMA (India), NDRRMA (Nepal) and DLGDM (Bhutan), will lead in-country delivery of Components 2, 3 and 5, reporting to both the RPMU and their own national disaster management authorities. G.B. Pant National Institute of Himalayan Environment (GBPNIHE), IFRC, CDRI and other technical partners contribute specialist guidance. A detailed governance charter, including a decision-making protocol and an escalation pathway for cross-border information-sharing disagreements — will be finalised at full proposal stage in direct consultation with National Designated Authorities (NDAs) and the concerned line ministries.

In India, implementation will be anchored in national institutions: NDMA as primary coordination partner; GBPNIHE and WIHG for Himalayan-specific risk and vulnerability assessments; NIDM for capacity building and training; IIRS for geospatial inputs to EWS and modelling; and IMD/CWC/SDMAs/DDMAs for operational EWS and last-mile delivery. In Nepal, NDRRMA leads national coordination and works with provincial, and local disaster management authorities. In Bhutan, DLGDM, Ministry of Infrastructure and Transport (MoIT), Department of Geology and Mines (DGM), and Department of Information Technology and Telecom (DOIT) serve as key partners. Final determination of executing roles will be made during full proposal phase in consultation with NDAs and concerned ministries.

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

A. Record of endorsement on behalf of the government

(Mr. Tshering Dorji, Director- Department of Macro-fiscal and Development Finance, Ministry of Finance)	Date*: January 30, 2026*
(Ms. Rajasree Ray, Economic Advisor - Climate Change, Ministry of Environment, Forest and Climate Change)	Date*: (June 4, 2026)*
(Mr. Suman Subedi, Under Secretary - Adaptation Section, Ministry of Forests and Environment)	Date*: (January 25, 2026)*

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 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.	
Dr. Pema Gyamtsho *Name & Signature* Implementing Entity Coordinator	
Date: *(June 05, 2026)*	Tel. and email: +97715275223; pema.gyamtsho@icimod.org
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Tel. And Email: neha.rai@icimod.org Prerana.dhakhwa@icimod.org, +977 152 75 223	

AF Project ID: AF00000548

དཔལ་རྩིས་སྡེབ་ཁག།
Department of Macro-fiscal and Development Finance
Ministry of Finance
Royal Government of Bhutan

MoF/DMDF/DCDMD/AF_ICIMOD/2025-2026/**1992** 30th January, 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
1818 H Street NW
MSN N7-700
Washington, D.C., 20433
United States of America
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Strengthening Adaptation and Flood and Landslide Early Warning for the HKH (SAFE NIB) – a regional project proposal (Bhutan, Nepal and India).

In my capacity as designated authority for the Adaptation Fund in Bhutan, I confirm that the above 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 Bhutan.

Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Centre for Integrated Mountain Development (ICIMOD) and executed by ICIMOD, Ministry of Infrastructure and Transport, Ministry of Home Affairs, National Center for Hydrology and Meteorology, Asian Disaster Preparedness Centre (ADPC), International Federation of Red Cross and Red Crescent Societies and along with Disaster Risk Management Agencies of Bhutan, India and Nepal.

Thanking you.

Yours sincerely,

(Tshering Dorji)
Director General/ Designated Authority of Bhutan to the Adaptation Fund

Copy to:

1. Hon'ble Secretary, Ministry of Finance for kind information.
2. Director General, International Centre for Integrated Mountain Development (ICIMOD) for kind information and support.

3. Director General, Department of Local Governance and Disaster Management, Ministry of Home Affairs for kind information.
4. Director General, National Center for Hydrology and Meteorology for kind information.
5. Director General, Department of Human Settlement, Ministry of Infrastructure and Transport for kind information.

राजश्री रे
RAJASREE RAY

सत्यमेव जयते

LiFE
Lifestyle for Environment

आर्थिक सलाहकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
भारत सरकार
ECONOMIC ADVISER
MINISTRY OF ENVIRONMENT, FOREST
AND CLIMATE CHANGE
GOVERNMENT OF INDIA

No. 20/05/2024-CS-I

4th June 2026

To,

The Adaptation Fund Board
C/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Strengthening Adaptation and Flood and Landslide Early Warning for the HKH (SAFE NIB)

Dear Sir/Madam,

In my capacity as designated authority for the Adaptation Fund in India, I confirm that the above regional 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 India.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the International Centre for Integrated Mountain Development (ICIMOD) and executed by ICIMOD, Asian Disaster Preparedness Center (ADPC) and National Disaster Management Authority (NDMA).

Yours sincerely,

Rajasree

(Rajasree Ray)

ए-650, अग्नि विंग, इंदिरा पर्यावरण भवन, जोर बाग रोड़, नई दिल्ली-110 003, फोन : 011-20819197, 20819329
A-650, Agni Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110 003, Ph. : 011-20819197, 20819329
E-mail : rajasree.r@nic.in

Government of Nepal
Ministry of Forests and Environment

P.O. Box No. 3987
Singh Durbar, Kathmandu

Ref. No. 241

Government of Nepal
Ministry of Forest and Environment
Singhadurbar, Kathmandu

Date: January 25, 2026

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

Subject: Endorsement for regional project pre-concept note "Strengthening Adaptation and Flood and Landslide Early Warning for the HKH (SAFE BaNIB)"

In my capacity as designated authority for the Adaptation Fund in Nepal, I confirm that the above regional project pre concept note 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 the Nepal

Accordingly, I am pleased to endorse the above project pre concept note with support from the Adaptation Fund. If approved, the project will be implemented by International Centre for Integrated Mountain Development (ICIMOD) and executed jointly by Disaster Risk Management Agencies of Government of Nepal along with Asian Disaster Preparedness Centre (ADPC), International Federation of Red Cross and Red Crescent Societies, United Nations Office for Project Services (UNOPS), and ICIMOD.

Sincerely,

Suman Subedi
Primary Contact Point, Adaptation Fund
Under Secretary, Adaptation Section
Ministry of Forests and Environment
Email:s_subedi2003@yahoo.com
Suman.subedi@nepal.gov.np

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

Project Formulation Grant (PFG)

Submission Date: September 12, 2026 (Resubmission)

Adaptation Fund Project ID: **AF00000548**
Country/ies: Bhutan, India and Nepal
Title of Project/Programme: Strengthening Adaptation and Flood and Landslide Early Warning for the HKH (SAFE NIB)
Type of IE (NIE/RIE/MIE): RIE
Implementing Entity: International Centre for Integrated Mountain Development (ICIMOD)
Executing Entity/ies: ICIMOD

A. Project Preparation Timeframe

Start date of PFG	Nov 2026
Completion date of PFG	Mar 2027

B. Proposed Project Preparation Activities ($)

List of Proposed Project Preparation Activities	Output of the PFG Activities	US$ Amount	Budget note[2]
Technical leadership and regional coordination of concept development	Technically sound, regionally coherent draft concept reflecting DRR and early warning priorities across Bhutan, India and Nepal, with inputs coordinated across executing entities	USD 12,019	Staff time: Water and DRR Lead (10 days @ $609/day = $6,090); and Intervention Manager- DRR (11 days @ $539/day = $5929)
Strategic oversight, quality assurance, and AF compliance review	Institutional sign-off confirming alignment with ICIMOD's regional programme priorities and the Adaptation Fund's eligibility criteria prior submission	USD 4,770	Staff time: Head, Strategic Results, Partnerships and Business Development (SRPBD) (5 days @ $954/day)

[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.

Concept note drafting and proposal development	Draft AF compliant regional project concept note, including theory of change, preliminary results framework and indicative budget	USD 7,500	Consultant time: Proposal design and development consultant (15 days @500/day)
In-country coordination, secondary data compilation and stakeholder liaison	Compiled secondary data (national adaptation plans, DRR strategies, existing hazards/vulnerability assessments) and liaison with National Designated Authorities (NDAs) and line ministries to ground the concept in national priorities.	USD 6,087	Staff time: BDRM Officer (20 days @ $133/day = $2660); SRPBD Associate (12 days @ $61/day = $732), Country Focal Points (5 days @ $539/day = $2,695)
Total Project Formulation Grant		USD 30,376	
IE Management Fee (8.5%)		USD 2,582	
Total Project Formulation Grant		USD 32,958	

Please describe below each of the PFG activities and provide justifications for their need and for the amount of funding required:

Activity 1: Technical Leadership and Regional Coordination of Concept Development
Proposed Budget: USD 12,019

Description: This activity covers the time of ICIMOD's Water and DRR Lead and Intervention Manager–DRR to provide technical direction to the concept development process, ensure the proposed early warning and adaptation approach is technically robust across the three countries' differing hydro-meteorological and landslide risk contexts, and coordinate inputs from the executing entities (IFRC, ADPC, NDMA, MOIT, DGM) into a single, consistent regional concept.

Justification: A three-country regional early warning project requires technical coherence across differing national systems and institutional mandates; without dedicated senior technical time, the concept risks being a loose compilation of country inputs rather than an integrated regional design. Given the reduced pre-concept budget, this technical function is delivered through existing ICIMOD staff time rather than external consultants, keeping cost to USD 12,019 for 21 combined staff-days.

Activity 2: Strategic Oversight, Quality Assurance and AF Compliance Review
Proposed Budget: USD 4,770

Description: This activity covers the time of the Head, Strategic Results, Partnerships and Business Development (SRPBD) to review the emerging concept against ICIMOD's institutional priorities and the Adaptation Fund's access modalities, eligibility criteria and quality standards, and to provide sign-off ahead of submission.

Justification: AF quality standards require institutional-level review before submission; this is a fixed, non-discretionary internal governance step. At USD 4,770 for 5 days, it is the minimum senior-level oversight needed to align institutional mandate and avoid rejection or resubmission delays at the Board review stage.

Activity 3: Concept Note Drafting and Proposal Development
Proposed Budget: USD 7,500

Description: This activity engages a Proposal Design and Development Consultant to draft the AF-compliant regional concept note, translating technical and country inputs into the required narrative, theory of change and indicative results framework.

Justification: Producing an AF template-compliant concept note is a specialized drafting task distinct from technical or coordination work. At this funding level, dedicated consultant drafting time (rather than committing already-stretched senior staff to full drafting) is the most cost-effective way to secure a submission-ready document within the available USD 33,000 ceiling.

Activity 4: In-Country Coordination, Secondary Data Compilation and Stakeholder Liaison
Proposed Budget: USD 6,087

Description: This activity covers the time of the BDRM Officer, SRPBD Associate and the three Country Focal Points to compile existing secondary data, national adaptation plans, DRR strategies, and prior hazard/vulnerability assessments already available for Bhutan, India and Nepal and to liaise with National Designated Authorities (NDAs) and line ministries so the concept reflects current national priorities.

Justification: At the pre-concept stage, funding is not available for new field consultations or primary data collection; this activity instead maximizes use of already-existing secondary sources and ICIMOD's established country-level relationships, ensuring the concept remains grounded in national realities at minimal cost (USD 6,087 for 37 combined staff-days across three focal points and two support staff).

For LLA Projects only:

If requesting additional funding for LLA projects to enable devolving decision making to the local level, please specify the activities that would directly serve to enable devolving decision making to the lowest appropriate level and enable local actors to make informed decisions on how adaptation actions are defined, prioritized, designed and implemented:

Please provide justifications for their need and for the amount of additional funding required:

C. 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
Dr. Pema Gyamtsho, Director General, International Centre for Integrated Mountain Development (ICIMOD)		17 July, 2026	Neha Rai Prerana Dhakwa	+977 1-527-5222	Neha.rai@icimod.org prerana.dhakhwa@icimod.org