Climate Finance Management in Nepal:

An Effectiveness and Transparency Perspective

TRANSPARENCY INTERNATIONAL NEPAL
coalition against corruption

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Report : **Climate Finance Management in Nepal: An Effectiveness and Transparency Perspective**

Researcher : **Raju Chauhan**

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Ghar No.: 57/62, Chhakkubakku Marga, New Baneshwor
Kathmandu, Nepal
Phone: 977-1-4475062, 4475112
Email: trans@tinepal.org
Website: www.tinepal.org
FB/Twitter: tinepal
Hotline: 1660 01 22211

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FOREWORD

Transparency International (TI) Nepal, founded in 1996, is a civil society organization dedicated to increasing public accountability and curbing corruption in Nepal. It is the national chapter of the global anti-corruption movement led by Transparency International. TI-Nepal focuses on policy advocacy, research, coalition building, and public sensitization as its core areas of operation. It implements various programs that aim to promote integrity and governance on thematic and sectoral fronts, with climate change being one of them.

TI-Nepal's Climate Governance Integrity Programme (CGIP) is part of a multi-country program launched by the Transparency International Secretariat in 2023. It is designed to ensure climate finance is governed with integrity, transparency, and accountability, so the most vulnerable communities can adapt to the climate crisis. By emphasizing a bottom-up approach considering the chapter's national objectives on climate governance, the CGIP is articulated around three outcomes: climate policy (so that policy-making processes relating to climate action are more transparency, accountable, and inclusive), climate action (so that there is improved accountability, integrity, and oversight of climate-related action globally and locally), and climate justice (so that there are improved justice outcomes for victims of environmental crime and corruption). Embedded in all these actions is a special emphasis on underrepresented groups, including women, rural populations, poor households, and young people, who are disproportionately affected by corruption in climate change.

This TI-Nepal initiated study titled 'Climate Finance Management in Nepal: An Effectiveness and Transparency Perspective', under the CGIP, highlights prevailing climate finance management scenarios and provides necessary policy recommendations to mitigate such situations. The study has been possible through financial support from the Waverly Street Foundation under Transparency International's Climate Governance Integrity Programme (CGIP).

TI-Nepal acknowledges the efforts made by the consultant researcher, Mr. Raju Chauhan, to prepare this report on an important topic. Guidance received from member (Senior Environmental and Social Safeguard Expert) Dr. Anusuya Joshi, is highly appreciated.

The report benefitted from consultations held with senior officials of the Climate Change Management Division, Ministry of Forest and Environment; National Project Manager- EBA II; Prakriti Resources Centre; CBIT Project, WWF Nepal. We thank individuals, organizations, and government offices, who provided their valuable time during meetings and workshops.

Padmini Pradhananga
President
Transparency International (TI) Nepal

Executive Summary

Nepal is extremely vulnerable to climate change effects including increased variability of monsoons, melting Himalayan glaciers, more frequent extreme weather events like floods, droughts and landslides. This severely impacts key sectors like agriculture, water, energy, health, tourism and infrastructure. The increased disasters disrupt rural livelihoods and infrastructure resulting in extensive loss and damage. Despite having negligible emissions, Nepal is disproportionately impacted by climate change as a Least Developed Country with very limited capacity to self-finance climate action. Significant investments are urgently needed in adaptation measures such as climate-smart agriculture, flood control, resilient infrastructure, early warning systems, ecosystem restoration and social protection schemes. Mitigation efforts also require financing especially for clean energy transition, energy efficiency in buildings, climate-resilient transport and waste management. However, the costs of implementing Nepal's climate policies and plans like NAP and NDC run into billions of dollars, far exceeding domestic resources. International climate finance mechanisms like Green Climate Fund, Adaptation Fund and bilateral/multilateral agencies is thus critical for Nepal to protect its people, ecosystems and economy by enhancing adaptive capacities and promoting low-carbon climate resilient development.

Nepal is currently receiving climate funds mostly from the Least Developed Countries Fund (LDCF), Adaptation Fund (AF), Global Environmental Facility (GEF), and Green Climate Fund (GCF), which all serve as climate financing mechanisms under UNFCCC as well as from the multilateral development banks like the World Bank, Asian Development Bank, UN agencies, and bilateral donors. Reports on top-down assessment of climate finance flows have documented that Nepal received USD 4.416 billion climate finance resources between 2012-2020, through various international, bilateral, and multilateral sources for climate change adaptation and mitigation. This study observed that between 2008- 2023, the 74 climate dedicated projects received an international funding of USD 697.3 million.

The two important milestones for planning climate change mitigation and adaptation in Nepal include the formulation of the Second Nationally Determined Contribution (SNDC) 2020 and the National Adaptation Plan (NAP) 2021. The total finance required to implement these policies is USD 80.4 billion. The total estimated cost for implementing Nepal's National Adaptation Plan priority programs up to 2050 is $47.4 billion. Nepal will contribute $1.5 billion itself until 2050, while $45.9 billion is required from external support to fully implement the NAP by 2050. The overall cost for Nepal to implement its public sector commitments under the Nationally Determined Contributions (NDC) is estimated to be around $33 billion. About USD 5.4 billion is required per year to implement NAP and NDC until 2030. After 2030 until 2050 about USD 1.32 billion per year is required for the implementation of NAP alone. If the provision of climate change policy of Nepal 2019 is to be realized, every year USD 4.32 billion should be invested for adaptation (USD 1.68 billion/year) and mitigation (USD 2.64/year) at local level from 2021 to 2030.

Nepal has made some progress in establishing policies, frameworks and funds for climate finance (e.g. Climate change budget coding, Climate Change Financing Framework) but its management and absorptive capacity remains weak. The highly relevant climate budget has accounted for about 5.3% of the total national budget. At subnational level this is comparatively high (22.6%) highlighting issues of subjectivity coding and need of common protocol for coding exercise. Considering Nepal’s current allocation of climate change budget, national finance commitments (2.95% of annual budget per year) can be possibly met. However, securing finance (37.9% of the annual budget) from international sources remain uncertain. On the other hand the absorption of approved funds has been very low. Nepal needs a multi-dimensional approach, tapping more global and domestic funds, to address climate risks across key sectors and at sub-national levels with gender-responsive and inclusive policies.

Nepal faces governance risks arising from weak institutions, inadequate transparency, accountability and oversight leading to potential mismanagement. Technical and macroeconomic risks stem from over-reliance on external finance, lack of feasible proposals and low absorption capacities resulting in fiscal instability. Financial risks like auditing gaps and regulatory risks from policy delays and inconsistencies threaten effective fund utilization. Gender inclusion, social exclusion, local capacity and regional cooperation gaps further constrain transparent and equitable climate funding. Nepal needs integrated risk diagnosis and mitigation across its policies, institutions and investments for prudent climate finance governance and project implementation. Robust, transparent systems are vital.

Nepal has come a long way but still has much scope to strengthen institutions, local capacity, transparent systems and innovative approaches to enhance climate finance readiness and access. While some institutional systems exist, significant gaps remain in decentralized climate fund governance, monitoring, transparency, oversight, and local capacities in Nepal. Strengthening coordination, monitoring capacities, gender inclusion, simplifying procedures and embracing innovations can enhance climate finance effectiveness.

This assessment makes the following conclusion:

- Differences in top down observations and bottom up observations of climate finance in Nepal. Accounting of climate finance is complex due to the lack of centralized climate support tracking system. Climate change budget and program tracking is weak at subnational level
- Nepal's commitment and efforts to prioritize climate change through national budgetary planning and expenditures has been reflected in budgets and programs. The national financial commitments made in the NDC and NAP are achievable, considering the current budget allocation for climate change. However, securing international funds as targeted remains uncertain.
- Ongoing adaptation interventions are effective for climate change response and livelihood support, and mitigation actions are contributing to the GHGs emission. But emission accounting is weak.
- Transparency is critical for building trust and accountability for climate action and support. The climate finance mechanism in Nepal is moderately Transparent. With CBIT project, NDC and NAP implementation kicking off, the transparency level is likely to increase in the coming years.
- Nepal's ability to spend allocated climate funds efficiently remains low due to complex procedures, lack of viable project proposals, delays in procurement and expenditures, and lack of accountability.

Based on the major findings the following recommendations has been made:

- **Accurate assessment:** Detail study on climate finance accounting is necessary to match the top down and bottom up accounting of CF in Nepal
- **Climate actions and support tracking:** Capacities of key entities such as the Ministry of Finance (MoF), National Planning Commission (NPC), and Ministry of Forests and Environment (MoFE), Social welfare council (SWC) and subnational governments to meticulously monitor and report on the sources, allocation, and impacts of climate finance. Indicator for tracking the NAP progress is urgently needed. GHG emission accounting should be strengthened as a means to mobilize funds and to secure climate funds through mechanism such as carbon trading, CDM etc
- **Access to the funds:** Efforts should be made to ensure that the international climate funds are timely accessed to meet the NDC and NAP commitments. The priority NAP actions and NDC intervention sector should be first considered for the development of the proposal to access funds. Targeted capacity building is needed to develop project pipelines and direct access abilities
- **Fund mobilization and absorption:** Ensure 80% of international climate resources flow towards supporting programs and initiatives at the local level. Establishing a revised climate change budget coding mechanism, identifying dedicated resources for adaptation actions, and directing a significant portion of international climate resources towards local-level programs. If planned well, mitigation and adaptation actions can go together complementing each other for effective outcomes. Simplified procedures, viable project proposals in place and speeding of procurement and expenditures process will enhance the fund absorption process.
- **Integrating climate actions:** Nepal should strategically align its climate actions with commitments on Sustainable Development Goals, disaster risk reduction and nature conservation. The finance strategy for adaptation in Nepal must align with the GRID (Green, Resilient, and Inclusive Development) approach, ensuring that it integrates elements of sustainability, resilience-building, and inclusivity.
- **Reliable assessments:** Nepal is advocating for a separate financing for climate impacts that cannot be adapted to. This issue is now part of UNFCCC negotiations. Reliable assessment of loss and damage is required for strong advocacy.

- **Leveraging private finance:** Policies and risk mitigation instruments can catalyse greater private sector investments in renewable energy, green infrastructure, ecotourism etc.
- **Enhancing climate finance transparency:** Enhance transparency of climate action and support for effective mobilization of the climate actions in Nepal.
- **Capacity building:** enhancing the knowledge, skills, and capabilities of concerned agencies in integrating climate resilience considerations into their planning and budgeting processes. Technology development and transfer, and capacity building needs should be identified as a means of implementation of climate actions.

कार्यकारी सारांश

- नेपालले हाल अतिकम विकसित देशलाई प्राप्त हुने जलवायु परिवर्तन कोष (LDCF), अनुकूलन कोष (AF), ग्लोबल इन्भायरमेन्टल फेसिलिटी (GEF), र हरित जलवायु कोष (GCF) बाट जलवायु वित्त प्राप्त गरिरहेको छ । यी सबैले UNFCCC अन्तर्गत जलवायु वित्तीय संयन्त्रको रूपमा काम गर्दछन् । विश्व बैंक, एसियाली विकास बैंक, संयुक्त राष्ट्र संघका एजेन्सीहरू र द्विपक्षीय दाताहरूबाट पनि जलवायु वित्त प्रवाह भैरहेको छ ।
- जलवायु वित्त प्रवाहको एकमुष्ट मूल्याङ्कन गर्ने प्रतिवेदनले जलवायु परिवर्तन अनुकूलन र न्यूनीकरणका लागि विभिन्न अन्तर्राष्ट्रिय, द्विपक्षीय र बहुपक्षीय स्रोतहरू मार्फत नेपालले २०१२-२०२० को बिचमा ४.४१६ अर्ब अमेरिकी डलर प्राप्त गरेको उल्लेख गरेका छन् । तर यस अध्ययनले २००८-२०२३ को बिचमा ७४ वटा जलवायु परिवर्तन व्यवस्थापनका परियोजनाहरूले ६९.७३ करोड अमेरिकी डलर अन्तर्राष्ट्रिय अनुदान प्राप्त गरेको देखाएको छ ।
- नेपालमा प्राप्त जलवायु वित्तको अवस्थालाई माथिबाट एकमुष्ट विश्लेषण गर्दा र कार्यान्वयन तहमा जलवायु अनुकूलन र न्यूनीकरणका कार्यक्रमलाई प्राप्त वित्तको आकडाको विश्लेषण गर्दा यी दुईबिच फरक देखिन्छ । केन्द्रीकृत जलवायु वित्त अनुगमन (ट्र्याकिंग) प्रणालीको अभावका कारण जलवायु वित्तको लेखाङ्कन जटिल भएको छ । जलवायु वित्त तथा बजेट ट्र्याकिंग प्रादेशिक तहमा झनै कमजोर पाइएको छ ।
- नेपालमा जलवायु परिवर्तन न्यूनीकरण र अनुकूलनका कार्यहरुको लागि दुई महत्वपूर्ण कोसेढुङ्गाहरू मध्ये जलवायु परिवर्तन न्यूनीकरणको राष्ट्रिय निर्धारित योगदान (NDC) 2020 र राष्ट्रिय अनुकूलन योजना (NAP) 2021 लागु गर्नको लागि कुल ८०.४ अर्ब अमेरिकी डलर वित्त आवश्यक छ । सन् २०३० सम्म NAP र NDC कार्यान्वयन गर्न वार्षिक ५.४ अर्ब अमेरिकी डलर आवश्यक पर्दछ । सन् २०३० पछि २०५० सम्म NAP को कार्यान्वयनका लागि मात्रै प्रतिवर्ष करिब १ अर्ब ३२ करोड अमेरिकी डलर आवश्यक पर्छ ।
- नेपालको राष्ट्रिय अनुकूलन योजनाका प्राथमिकता कार्यक्रमहरू सन् २०५० भित्र कार्यान्वयन गर्न कुल अनुमानित लागत ४७.४ बिलियन डलर रहेको छ । नेपालले सन् २०५० सम्म १.५ अर्ब अमेरिकी डलर आफैं योगदान गर्ने छ भने सन् २०५० सम्ममा ल्वए लाई पूर्ण रूपमा कार्यान्वयन गर्न बाह्य सहयोगबाट ४५.९ बिलियन डलर आवश्यक पर्दछ । राष्ट्रिय निर्धारित योगदानअन्तर्गत सार्वजनिक क्षेत्रका प्रतिबद्धताहरू कार्यान्वयन गर्न नेपालको समग्र लागत करिब ३३ बिलियन डलर हुने अनुमान गरिएको छ ।
- नेपालको जलवायु परिवर्तन नीति २०७६ अनुसार प्राप्त वित्तको ८० प्रतिशत स्थानीय तहमा लागानी गर्नुपर्ने प्रावधानलाई वास्तवमै कार्यान्वयन गर्ने हो भने सन् २०२१ देखि २०३० सम्म स्थानीय स्तरमा अनुकूलनका लागि प्रति वर्ष १ अर्ब ६८ करोड अमेरिकी डलर र न्यूनीकरणका लागि २ अर्ब ६४ करोड अमेरिकी डलर गरी वार्षिक रूपमा जम्मा ४ अर्ब ३२ करोड अमेरिकी डलर लगानी गर्नुपर्छ ।
- नेपालको अति सान्दर्भिक जलवायु बजेटले कुल राष्ट्रिय बजेटको करिब ५.३ प्रतिशत हिस्सा ओगटेको छ । प्रादेशिक स्तरमा यसको हिस्सा तुलनात्मक रूपमा उच्च (२२.६%) रहेको देखिन्छ । यसले जलवायु परिवर्तन सम्बन्धी बजेट कोडिङ (ट्र्याकिङ) को विषयगतता र कोडिङ अभ्यासको लागि साझा प्रोटोकलको आवश्यकता देखाउँछ । नेपालको हालको जलवायु परिवर्तन बजेटको विनियोजनलाई ध्यानमा राखी राष्ट्रिय वित्तीय प्रतिबद्धताहरू (प्रति वर्ष वार्षिक बजेटको २.९५%) पूरा गर्न सम्भव देखिन्छ । यद्यपि, अन्तर्राष्ट्रिय स्रोतहरूबाट आवश्यक वित्त (वार्षिक बजेटको घठ.ढ%) सुरक्षित गर्ने कुरा निकै चुनौतीपूर्ण रहेको छ । अर्कोतिर नेपाललाई विभिन्न स्रोतबाट जलवायु व्यवस्थापनका लागि प्राप्त कोषको अवशोषण (खर्च) निकै कम भएको देखिन्छ ।
- नेपालले जलवायु परिवर्तन व्यवस्थापनका लागि गरेको वित्तीय प्रतिबद्धता र जलवायु परिवर्तनलाई प्राथमिकता दिने प्रयास पछिल्ला वर्षहरूका नीति तथा कार्यक्रम र बजेटमा स्पष्ट झल्किन्छन् । यो निकै सकारात्मक पक्ष हो । नेपालले यस आर्थिक वर्षमा जलवायू परिवर्तनको क्षेत्रमा विनियोजन गरेको बजेटलाई हेर्दा जलवायु परिवर्तन न्यूनीकरणको राष्ट्रिय निर्धारित योगदान (NDC) र राष्ट्रिय अनुकूलन योजना (NAP) मा गरिएका राष्ट्रिय वित्तीय प्रतिबद्धताहरू महत्वकाङ्क्षी नरहेको र सजिलै प्राप्त गर्न सकिने देखिन्छ । यद्यपि अन्तर्राष्ट्रिय स्रोतहरुबाट प्राप्त गर्नुपर्ने वित्तको हिस्सा अत्याधिक रहेको छ । ती वित्तीय स्रोतको सुनिश्चितता गर्न निकै

कठिन देखिन्छ ।

- हाल नेपालमा चलिरहेका अनुकूलन कार्यक्रमहरूले जीविकोपार्जनमा सुधार ल्याउँदै जलवायु परिवर्तनको असर हरुसँग अनुकूलित गराउन प्रभावकारी भूमिका खेलेको देखिन्छ । न्यूनीकरणका कार्यक्रमहरूले पनि सोचेअनुरुप हरितगृह ग्याँसहरु घटाउने देखिएको छ । तर नेपालमा उत्सर्जनको अवस्था (emission status) तथा हरितगृह ग्यासहरुको सेचन (Sink) सम्बन्धी तथ्याङ्क एवं लेखाजोखाको अवस्था कमजोर छ ।
- जलवायु परिवर्तनको प्रभावकारी अनुकूलन तथा न्यूनीकरणका लागि विश्वसनियता र जवाफदेहिता निर्माण गर्न पारदर्शिता आवश्यक छ । यस अध्ययनले नेपालमा जलवायु वित्तको पारदर्शिताको स्तर मध्यम रहेको देखाउँछ । पारदर्शिता वृद्धि गर्न वित्त व्यवस्थापनका लागि क्षमता अभिवृद्धि र प्रविधि हस्तान्तरणको अवस्था र आवश्यकतामा जोड दिन जरुरी छ । पारदर्शिताका लागि क्षमता अभिवृद्धि परियोजना (CBIT) तथा NDC र NAP जस्ता योजनहररूको कार्यान्वयन सुरु भएपछि आगामी वर्षहरूमा पारदर्शिताको स्तरमा सुधार आउने सम्भावना छ ।
- यथेष्ट जलवायु परिवर्तन परियोजना प्रस्तावहरूको अभाव, जटिल सार्वजनिक खरिद प्रकिया तथा खर्च प्रक्रियामा हुने ढिलासुस्ती र जवाफदेहिताको अभावका कारण विनियोजन गरिएको जलवायु वित्तलाई कुशलतापूर्वक खर्च गर्न नसकिरहेको अवस्था विद्यमान छ ।

यस अध्ययनबाट निम्न सुझावहरू सिफारिस गरिएको छ ।

- नेपालमा जलवायु वित्त लेखासम्बन्धी विस्तृत अध्ययन आवश्यक छ । त्यस अध्ययनले माथिबाट वितरण गरिने एकमुष्ट जलवायु वित्तको लेखा र परियोजना स्तरबाट गरिने वित्तिय लेखा विश्लेषण बिचको अन्तरलाई केलाउन सक्नुपर्दछ ।
- जलवायु परिवर्तन व्यवस्थापनका कार्य तथा जलवायु वित्तको स्रोत, विनियोजन र प्रभावहरूको प्रभावकारी अनुगमन, ट्रयाकिङ्ग तथा रिपोर्टिङ गर्न अर्थ मन्त्रालय (MoF), राष्ट्रिय योजना आयोग (NPC), वन तथा वातावरण मन्त्रालय (MoFE), समाज कल्याण परिषद् (SWC) र प्रदेश तथा स्थानीय सरकारहरूको क्षमता अभिवृदि गर्नुपर्छ ।
- राष्ट्रिय अनुकूलन योजनाको प्रगति मापन गर्नको लागि सूचक आवश्यक छ । वित्त परिचालन गर्न र कार्बन व्यापार तथा स्वच्छ उर्जा संयन्त्र जस्ता माध्यम मार्फत जलवायु वित्तको पहुच बढाउन हरितगृह ग्यासहरुको उत्सर्जन लेखालाई सुदृढ गर्नुपर्छ ।
- NDC र NAP का लक्ष्य र प्रतिबद्धताहरू पूरा गर्न अन्तर्राष्ट्रिय जलवायु कोषहरूमा समयानुकूल पहुँच बढाउनुपर्छ। अन्तर्राष्ट्रिय जलवायु कोषहरूका लागि प्रस्ताव तयार गर्दा NAP र NDC ले तोकेका प्ररियोजनाहरुलाई पहिलो प्राथमिकतामा राखिनुपर्छ । प्रस्तावहरु तयार गर्न र जलवायु कोषहरुमा नेपालका संबन्धित संघसङ्स्थाहरूको प्रत्यक्ष पहुँचको वृद्धि विकास गर्न क्षमता अभिवृद्धि आवश्यक छ ।
- वित्त परिचालन र अवशोषणको निम्ति अन्तर्राष्ट्रिय जलवायु स्रोतहरूबाट प्राप्त वित्तको ८० प्रतिशत, स्थानीय स्तरका कार्यक्रमहरूमा अनिवार्य परिचालन गर्नुपर्छ । जलवायु परिवर्तन बजेट कोडिङका सूचकहरूलाई संसोधन गर्दै साझा र स्पष्ट कार्यविधिको विकास र वित्तीय संयन्त्रको स्थापना हुन आवश्यक छ ।
- अनुकूलन र न्यूनीकरण कार्यहरूका लागि समर्पित स्रोतहरूको पहिचान गरी ती स्रोतहरुमा पहुच वृद्धी गर्ने र योजना बनाउदा न्यूनीकरण र अनुकूलन कार्यहरूलाई एक-अर्काको पूरक बन्ने गरी बनाइयो भने तिनले खर्चको मितव्यिता र प्रभावकारीता बढाउन सक्छ ।
- सरलीकृत खरिद र खर्च प्रक्रिया र व्यावहारिक परियोजना प्रस्तावहरूको तयारी तथा कार्यान्वयनले जलवायु कोषहरुबाट प्राप्त गरिने वित्तको अवशेषणलाई बढाउँछ ।
- नेपालले जलवायु परिवर्तनका परियोजनाहरूमा दिगो विकासका लक्ष्य, विपद् जोखिम न्यूनीकरण र प्रकृति संरक्षणका प्रतिबद्धताहरूलाई रणनीतिक ढङ्गले एकीकृत गर्दै लैजानुपर्छ । अनुकूलनका लागि ग्रिड (वातावरण मैत्री, उथ्थनशील र समावेशी विकास) परियोजनाका क्रियाकलापहरूलाई अनुकूलन योजनाहरू सँगै एकिकृत गर्नुपर्छ । यसले परियोजनाहरुमा दिगोपन, उत्थनशीलता र समावेशीता सुनिश्चित गर्दछ ।

- नेपालले जलवायु प्रभावहरू जुन अनुकूलन गर्न सकिँदैन (हानि र क्षती), तिनका लागि छुट्टै वित्तपोषणको वकालत गरिरहेको छ । यो मुद्दा अब संरचना महासन्धी (UNFCCC) वार्ताको हिस्सा पनि बनिसकेको छ । नेपालले यसबाट ठुलो परिमाणको वित्त भित्र्याउन सक्छ जसका लागि हानि र क्षतिको भरपर्दो मूल्याङ्कन आवश्यक छ ।
- नवीकरणीय ऊर्जा, हरित पूर्वाधार, परापर्यटन इत्यादिमा निजी वित्तको लगानीलाई उत्प्रेरित गर्न उपयुक्त नीतिको व्यवस्था तथा जोखिम न्यूनीकरणका साधनहरूलाई उपयोग गर्न सकिन्छ ।
- योजना र बजेट विनियोजन प्रक्रियाहरूमा जलवायु उत्थनशिलतालाई एकीकृत गर्न सम्बन्धित निकायहरूको ज्ञान, सीप, र क्षमता अभिवृद्धि गर्नुपर्नेछ । जलवायु परिवर्तन व्यवस्थापनका कार्यहरूलाई प्रभावकारी रुपमा कार्यान्वयन गर्न प्रविधि विकास र हस्तान्तरण, र क्षमता अभिवृद्धिका अन्य आवश्यक क्षेत्रहरू पहिचान गरी ती क्षेत्रमा सुधारका काम गरिनुपर्छ ।
- नेपालमा जलवायु परिवर्तनको वित्त परिचालन तथा अनुकूलन र न्यूनीकरणका कार्यहरूलाई प्रभावकारी एवं दिगो व्यवस्थापन गर्न पारदर्शिताको सुनिश्चित गर्नुपर्छ ।

Acronyms and Abbreviations

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Centre
CbA	Community-based Adaptation
CBIT	Capacity-building Initiatives for Transparency
CBO	Community-based Organization
CCMD	Climate Change Management Division
CCDMMRC	Climate Change Data Management Monitoring and Reporting Centre
CFUG	Community Forest User Group
COP	Conference of the Parties
dCPEIR	District Climate Public Expenditure and Institutional Review
DHM	Department of Hydrology and Meteorology
DRRM	Disaster Risk Reduction and Management
EbA	Ecosystem-based Adaptation
ETF	Enhanced Transparency Framework
EPCCMNC	Environmental Protection and Climate Change Management National Council
GCF	Green Climate Fund
GESI	Gender Equality and Social Inclusion
GLOF	Glacial Lake Outburst Flood
GoN	Government of Nepal
IMCCCC	Inter-Ministerial Climate Change Coordination Committee
INGO	International Non-governmental Organization
IPCC	Intergovernmental Panel on Climate Change
LAPA	Local Adaptation Plan for Action
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
M&E	Monitoring and Evaluation
MoFE	Ministry of Forests and Environment
MoHA	Ministry of Home Affairs
MIS	Management Information System
MR&R	Monitoring, Review and Reporting
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NCCP	National Climate Change Policy
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NGO	Non-governmental Organization
NPC	National Planning Commission
PEPCCMC	Provincial Environmental Protection and Climate Change Management Council
PCCC	Provincial Climate Change Coordination Committee

REDD+	Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SDG	Sustainable Development Goal
TI	Transparency International
TIN	Transparency International Nepal
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	US dollar

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1. Introduction

In the face of unprecedented global challenges posed by climate change, countries around the world are increasingly recognizing the need to take proactive measures to mitigate its impacts and adapt to the changing climate. Evidence has shown that Nepal, located in the heart of the Himalayas, has been highly affected by climate change (Shrestha et al., 2019). As a nation vulnerable to a multitude of climate-related risks, including glacial lake outburst floods, landslides, erratic monsoons, loss of agricultural production and biodiversity (Bocchiola et al., 2019; Dahal et al., 2016; Dhimal et al., 2021; Lamsal et al., 2018), Nepal has committed itself to addressing climate change by setting ambitious targets for reducing greenhouse gas emissions and enhancing resilience through the Second Nationally Determined contribution and for adaptation through National Adaptation Plan (GoN, 2021; MoFE, 2020). However, the translation of these commitments into meaningful action requires a complex interplay of financial resources, policy frameworks, and transparent management practices (WB & ADB, 2021).

Climate finance, a crucial component of the global response to climate change, plays a pivotal role in supporting Nepal's efforts to combat environmental threats and foster sustainable development (ADPC, 2021; NPC/UNDP/UNEP/CDDE, 2011). Effective and transparent management of climate finance is essential to ensure that the funds allocated to Nepal are used efficiently, equitably, and with the utmost transparency, thereby maximizing their impact in building resilience and promoting low-carbon development (Kouwenberg & Zheng, 2023; NPC, 2012; TI, 2018). Nine types of climate finance policies, including target lending, green bond policy, loan guarantee programmes, weather indexed insurance, feed-in-tariffs, tax credits, national development banks, disclosure policies and national climate funds have been documented by Bhandary et al. (2021). After the Paris Agreement, in recent years climate finance research has been getting more attention (Kouwenberg & Zheng, 2023; Long et al., 2022).

This study deals into the complex landscape of climate finance in Nepal. It examines the financial mechanisms, policies, and practices employed to channel funds towards climate projects and evaluates their effectiveness. This research investigates the transparency and accountability aspects of climate finance management to shed light on the openness of the financial processes and the extent to which the public can access and scrutinize information related to these initiatives.

The scope of this study includes an analysis of the current state of climate finance management in Nepal, encompassing its strengths and weaknesses, successes and challenges and provide insights and recommendations for enhancing the effectiveness and transparency of climate finance in the country. By doing so, this research seeks to contribute to the broader discourse on climate finance management, both in Nepal, and to support Nepal in its journey towards a more sustainable, climate-resilient future.

2. Scope and Objectives

The objective of this study is to assess the management of climate finance in Nepal from transparency and effectiveness perspective. The specific objectives are given below:

i. To analyze the current state of climate finance management in Nepal by intersectoral government ministries, including financial mechanisms, policies, and practices.
ii. To evaluate the effectiveness of climate finance utilization and its impact on climate adaptation and mitigation efforts in Nepal.
iii. To explore climate finance risks and the awareness of regulatory/concerned/Anti- corruption agencies about such risks.
iv. To identify challenges and opportunities in climate finance management in Nepal and provide recommendations for improvement

The scope of this study includes:

- Map key institutions and stakeholders involved in climate finance management
- Review policies, laws, regulations and administrative frameworks related to climate funds

- Compile and analyse data on global/national climate funds received, allocated and utilized across programs
- Assess monitoring, evaluation, reporting and verification systems of climate projects
- Examine extent of public disclosure and parliamentary/civil society oversight
- Interact with concerned officials, experts, auditors, communities on effectiveness issues
- Analyse gaps, challenges and opportunities in existing climate finance governance
- Put forth policy, institutional and technical recommendations for enhancing effectiveness and transparency

3. Methodology

The research has employed a mixed-methods approach, combining literature review, consultations, and case study (Figure 1). First, the data collection through desk reviews, including analysis of journal articles, climate finance policies, project documents, and financial reports was done.

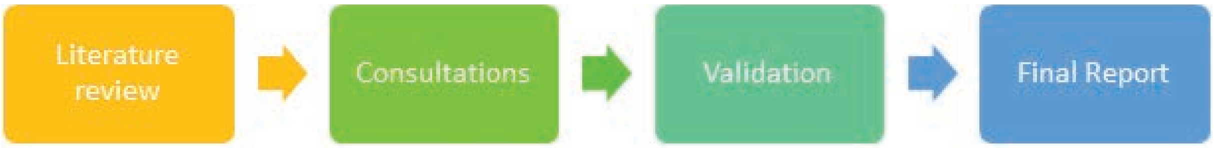

Figure 1. Methodology of the study

In the process of conducting the literature review, a systematic approach was adopted. Initially, search was conducted on the web of science and Scopus database using the search strings such as 'climate finance', 'climate change funds', 'climate finance policy', 'transparency' and 'Nepal' which yielded 412 results. The same search strings were also used in google scholar and google to include relevant reports and articles. In the overall search, 197 duplicates were found which were removed resulting in 215 data. Subsequently, we manually assessed the papers to select those that were most pertinent to our research topic, resulting in a total of 105 articles. Further, we refined the list by filtering for articles specifically related to Nepal, resulting in a final selection of 72 articles. The systematic approach of the literature search and selection is given in Figure 2. Each of these articles was individually reviewed to facilitate the analysis.

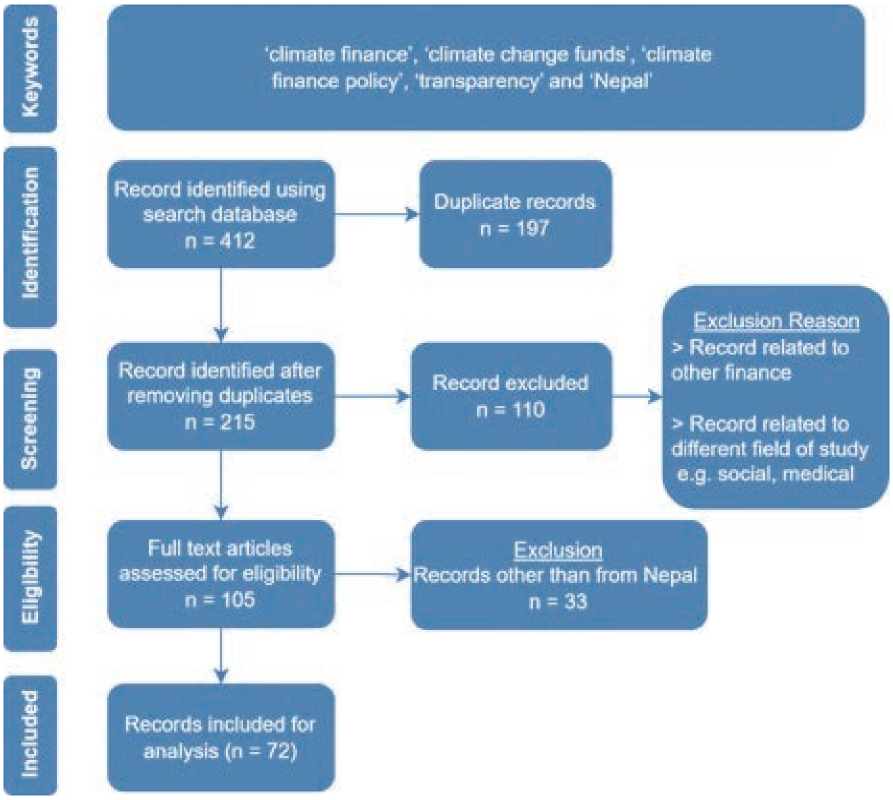

Figure 2. Flow chart for the collection and review of literatures

Secondly, Interviews with key stakeholders, including representatives from government, INGOs, UN agencies, multilateral banks, civil society organizations, development partners were done. Third, a workshop was organized by the Transparency International Nepal on December 4, 2023 (2080/08/18 B.S.) on the 'Promotion of Transparency, Inclusiveness and Accountability on Climate related works in Nepal' where the local government representatives and officials from different local governments (Palikas) of Kathmandu, Lalitpur and Bhaktapur districts were invited (Figure 3). Information on the climate change impacts and actions were drawn from the discussion of the workshop.

Figure 3. Consultation workshop with local government representatives

Fourth, Case studies of selected climate change mitigation and adaptation projects in Nepal was also done to evaluate their effectiveness. Following projects were reviewed.

i. Hariyo Ban Program II (2017-2021) https://www.wwfnepal.org/together_possible/flagship_projects/hariyo_ban_program/
ii. Nepal Climate Change Support Programme (2013-2019) https://erc.undp.org/evaluation/documents/download/15612

Edline survey reports and Projects documents were reviewed and assessed. Adaptation interventions were categorized into Human, Natural Resources, Physical, Social and financial. Likert scale of 5 was used to rank the interventions based on its effectiveness for climate response and livelihood support. The average score was generated to compare the interventions.

Fifth, for transparency assessment of Climate finance a Climate Finance Transparency Framework (CFTC) was developed. 18 Criteria based on the Enhanced Transparency Framework (UNFCCC, 2020) were developed (Table 1).

Table 1. Criteria for climate finance transparency assessment

SN	Climate Finance Transparency Criteria (CFTC)
1	GHG inventory- sources and sinks of emission
2	Information on Climate change impact and vulnerability
4	Information on adaption need and priorities
5	Indicator to track progress of NAP
6	MEAL on Climate change adaptation and mitigation policies
7	Mitigation policies and measures
8	Indicator to track progress of mitigation

9	Financial support needed
10	Financial support received from multilateral, bilateral, regional and other channels and mobilized
11	Financial support received from UNFCCC channels
12	Financial support mobilized from domestic sources
13	Technology development and transfer support needed and received
14	Technology development and transfer support received
15	Information on capacity building support needed
16	Information on capacity building support received
17	No complaints regarding climate finance related programs at CIAA or court
18	No Cases of corruptions in climate programs

Score for each criterion was provided based on the framework developed and aggregate score was computed. The score interpretation was done to assess the level of transparency. The criteria and framework are given in Table 2 and 3.

Table 2. Scoring values for the CFTC

CFT Framework	Score for Criteria
Meet the criteria completely	1
Moderately meet the criteria	0.5
Does not meet the Criteria	0
Doesn't meet the criteria and events impede transparency moderately	-0.5
Doesn't meet the criteria and events impede transparency adversely	-1

Table 3. Interpretation of the total scores obtained

Score	Interpretation
<3	Not transparent
3-7.2	Low Transparency
7.2-10.8	Moderate Transparency
10.8-14.4	High Transparency
14.4-18	Fully Transparent

4. Results and Discussion

4.1 Climate finance management in Nepal

4.1.1 Status of climate finance

The impact of climate change is evident in Nepal in different sectors and spheres. In response to this, the government of Nepal has been implementing climate change mitigation and adaptation actions (GoN, 2021, 2023; Government of Nepal, 2021; MoFE, 2021b). The Government of Nepal has been allocating programs and budgets at all the three tiers of government from federal to local level (MoF, 2022). The budget allocated for the climate change sector has been tracked through the climate change budget code since 2013 (MoF, 2017; NPC, 2012). Nepal started receiving international climate finance support as early as 1997 through adaptation programs funded by Germany (Dixit et al., 2016).

Major sources of climate finance for Nepal are multilateral development banks like the World Bank, Asian Development Bank, UN agencies, and bilateral donors (ADPC, 2023; PRC, 2021) (Figure 4). The Climate Investment Fund, Global Environment Facility, Adaptation Fund, and Green Climate Fund are key sources of global climate finance. Nepal is currently receiving climate funds mostly from the Least Developed Countries Fund (LDCF), Adaptation Fund (AF), Global Environmental Facility (GEF), and Green Climate Fund (GCF), which all serve as climate financing mechanisms under UNFCCC (OPM, 2022).

Figure 4. Major sources of climate finance in Nepal

International climate finance flows

Nepal received about USD 4.416 billion in climate finance resources between 2012-2020, through various international, bilateral, and multilateral sources for climate change adaptation and mitigation (OPM, 2022). The study makes an account on a top down approach using OECD database (Figure 5). Majority of the climate finance came from Multilateral banks (58.8%) followed by OECD member countries (30.6%), UNFCCC mechanisms (7.3%) and other sources such as UN agencies, and private donors (3.19%).

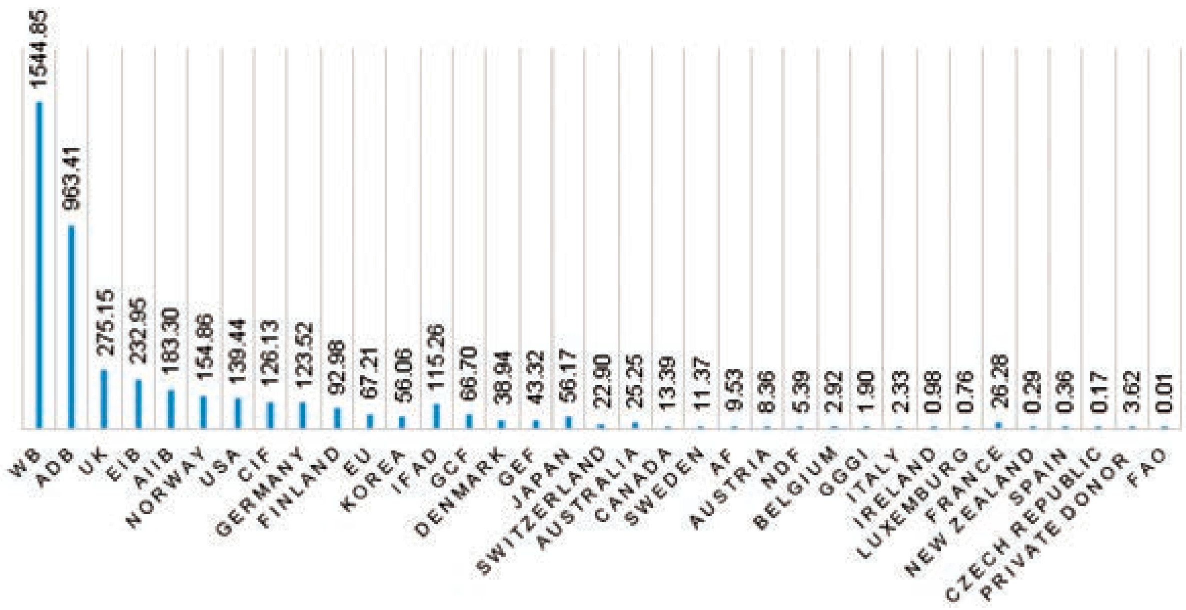

Figure 5. Flow and provider of climate finance in Nepal 2012- 2020 (Source: OECD, 2022 as cited in OPM, 2022)

Another study by OXFAM shows that Nepal received a total finance of USD 3.3 billion between 2013- 2020 assessed using the same database of OECD (OXFAM, 2022). About 61% of the funding received is grant equivalent. However, on evaluating the climate finance from a project perspective between 2008 - 2023, USD 697.3 million has been received for 74 climate dedicated projects in Nepal (Figure 6) (See summary table in Annex I). According to a study, between 1997 to 2014, the total amount committed by various donor agencies and funds towards climate finance for Nepal was USD 652.4 million (Dixit et al., 2016). There are discrepancies in the estimates that are made by top-down and bottom up approach. Top-down estimates are higher compared to the bottom up. Top-down accounting have high chances of double counting. For instance, the same amount could be counted as bilateral assistance as well as contribution to the climate dedicated funds such as GCF by a country. There are also evidences that the donors have often over-reported the climate finance they contributed to LDCs like Nepal (CARE, 2021; Mandal, 2021; Rai et al., 2020). The amount actually received by Nepal from international sources could be lower than that have been reported in the OECD databases which has been mostly considered in tracking the international climate finance in Nepal. This indicates the need for detail assessments of the finance flow in Nepal that match the top down and bottom up estimates.

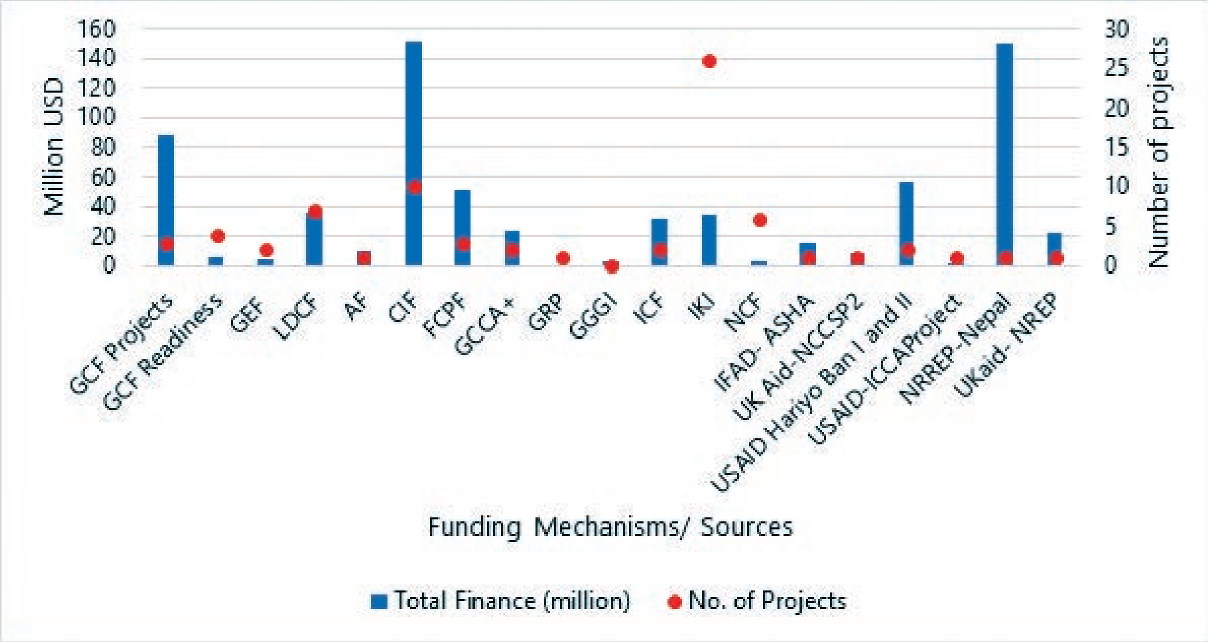

Figure 6. Total Funds received for dedicated climate projects in Nepal
(Bottom Up observation assessed in this study)

Till 2023, Nepal received a total of USD 87.8 million from GCF for three projects managed by AEPC, IUCN and FAO. The projects include i) mitigating GHG emission through modern, efficient and climate friendly clean cooking solutions (CCS), ii) Improving Climate Resilience of Vulnerable Communities and Ecosystems in the Gandaki River Basin, Nepal, and iii) Building a Resilient Churia Region in Nepal (BRCRN) respectively. The GCF financing for the respective projects is USD 21.1 million (AEPC), USD 37.4 million (IUCN) and USD 39.2 million (FAO). For the readiness activities about USD 5.3 million has been approved by GCF, out of which USD 4.5 million has been already disbursed.

The Alternative Energy Promotion Center (AEPC) aims to increase access to clean electricity for cooking through various innovative approaches targeting households and local governments. Key strategies include -Bulk procurement of clean cooking technologies via competitive bidding to lower costs, Output-based financing mechanisms to de-risk investments, building institutional capacity of 150 local governments on renewable energy, accelerating deployment and market development for clean cooking solutions, Installing 500,000 electric stoves, 490,000 improved biomass cookstoves, and 10,000 biogas plants. The IUCN project aims to build climate resilience by addressing key barriers like lack of climate change awareness, weak regulations and institutional capacities. The initiatives are centred on ecosystems and communities to strengthen the climate resilience of ecosystems to mitigate impacts of landslides and floods. It provides technical assistance to enhance capacities of communities for maintaining and supporting climate-resilient ecosystems. Similarly, The FAO project takes an integrated approach to ecosystem restoration including forests while considering land use needs. This include strong stakeholder engagement across all levels of government and community organizations, restoring degraded ecosystems and forests and balancing restoration with sustainable land use needs.

Nepal has also been able to access USD 4.6 million from the GEF Trust Fund and USD 36.7 from the LDCF for nine climate change projects until 2023. The four projects accounting a total finance of USD 3 million from GEF trust Fund (for one project) and USD 9.1 million from LDCF (for 3 projects) has ready been completed and the rest of the finance has been approved for another five projects. One additional project from the GEF trust fund and four projects from the LDCF has been approved, and are in line of implementation. The GEF and LDCF have been mostly accessed and implemented through Food and Agriculture Organization, United Nations Development Programme, and World Wildlife Fund - US Chapter. The Global Environment Facility Small Grants Programme (SGP) projects also contribute to the climate change mitigation and adaptation in Nepal.

Table 4. Different funds accessed by Nepal for climate change projects

Calibri	Fund status (in Million USD)			
	Completed	Approved	Total	Grand total
GEF Trust Fund	3.00	1.65	4.65	41.35
Least Developed Countries Fund	9.19	27.51	36.70	
Adaptation fund		9.53		9.53

A project on the adaptation to climate induced threats to food production and food security in the Karnali Region of Nepal is being implemented by the UN World Food Programme. The fund for this project worth USD 9.5 million was accessed through the Adaptation Fund. The project's goal is to increasing the adaptive capacity of climate vulnerable and food insecure poor households by improved management of livelihood assets and natural resources in the Karnali mountain districts of Nepal. Dedicated climate projects such as the NCCSP, EFLG, ASHA and AEPC fund have substantially contributed to the climate finance in Nepal (MoFALD, 2018). Nepal has recently adopted the Green, Resilient and Inclusive Development (GRID) approach to mobilize finance for climate action including adaptation. The GRID approach aims to align financial support including climate finance in a coordinated way to address climate change, COVID-19 recovery, long-term green growth and sustainable development in an inclusive manner.

Climate finance from domestic sources

In 2022/2023, about 5.9% of the total budget in Nepal was highly climate relevant while 28.08% of the budget is relevant to climate actions (Figure 7). The directly beneficial climate change budget in 2022/23 has increased by 31.11% compared to 2017/18. In 2018, the highly relevant climate budget had accounted for about 5% of the total national budget (MoFALD, 2018). The analysis of the climate budget over the last six year shows that the average climate change budget for highly relevant, relevant and neutral is 5.3%, 28.1% and 66.5% respectively.

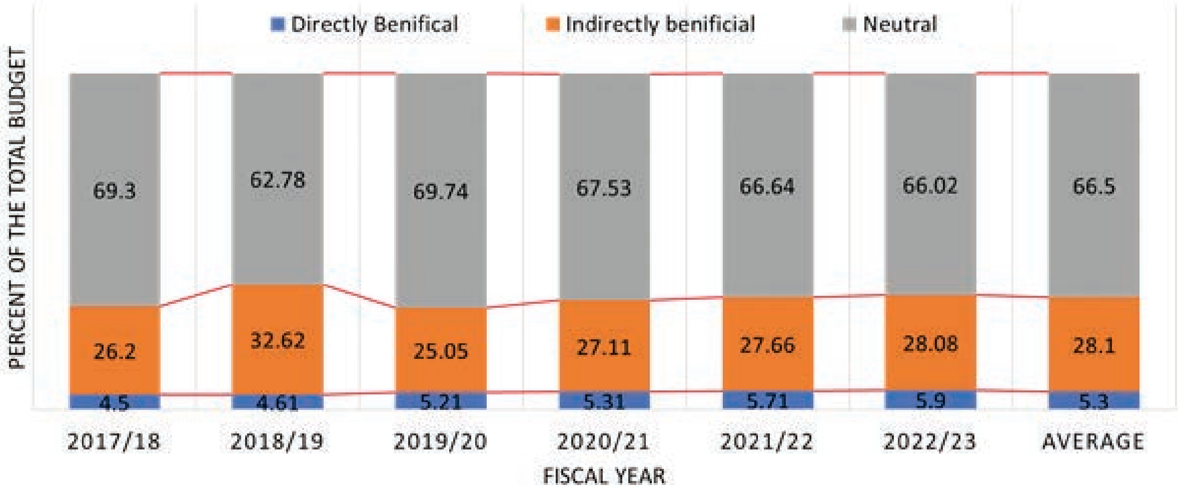

Figure 7. Climate change budget in Nepal over the last six years

At the subnational level, 51% of the total budget accounts for the climate relevant budget (highly relevant + relevant) in the provinces in 2021/2022 (Figure 8- upper). This is comparatively high compared to the federal average (33.3%). The average climate change budget for highly relevant climate action at province level is 26.6% in 2021/2022. For the same year the average climate change budget at federal level was only 5.7%. Local governments have incorporated climate change into their local plans and budgets and they have also started to implement the climate budget coding of programs at local level. However, in the absence of a distinction between climate change impacts and anthropogenic impacts, climate related activities are not clearly defined.

The allocation of the budget shows that the climate change finance has been increasing from the domestic sources in recent years. In 2011, highly relevant budgeted expenditure represented around 1.8% of total Government Budgeted expenditures (CPEIR, 2011). District level climate public expenditure and institutional review (dCPEIR) conducted in five districts in 2018 shows that climate budget expenditure accounted for 15.4% at district level on average. This includes expenditure of 12.7% on highly relevant climate activities and the rest 2.6% on relevant climate actions (MoFALD, 2018). Government should put efforts to increase the funding from international mechanism.

On analysing, the discrepancies in the percentage of the climate relevant budget at subnational level and federal level, it was found that many climate neutral projects had been coded under climate relevant program in province level. In absence of the clear and common guideline for budget coding at all level, the climate change budget coding process has become a subjective one and the relevancy of the program towards climate change depends upon how the coder has perceived climate change in different sectors (See Annex 2 for climate change budget coding guideline). Tackling this issue and maintaining consistencies in coding procedures demands for a common guideline for budget coding and capacity building training for effective budget coding to the dedicated staffs.

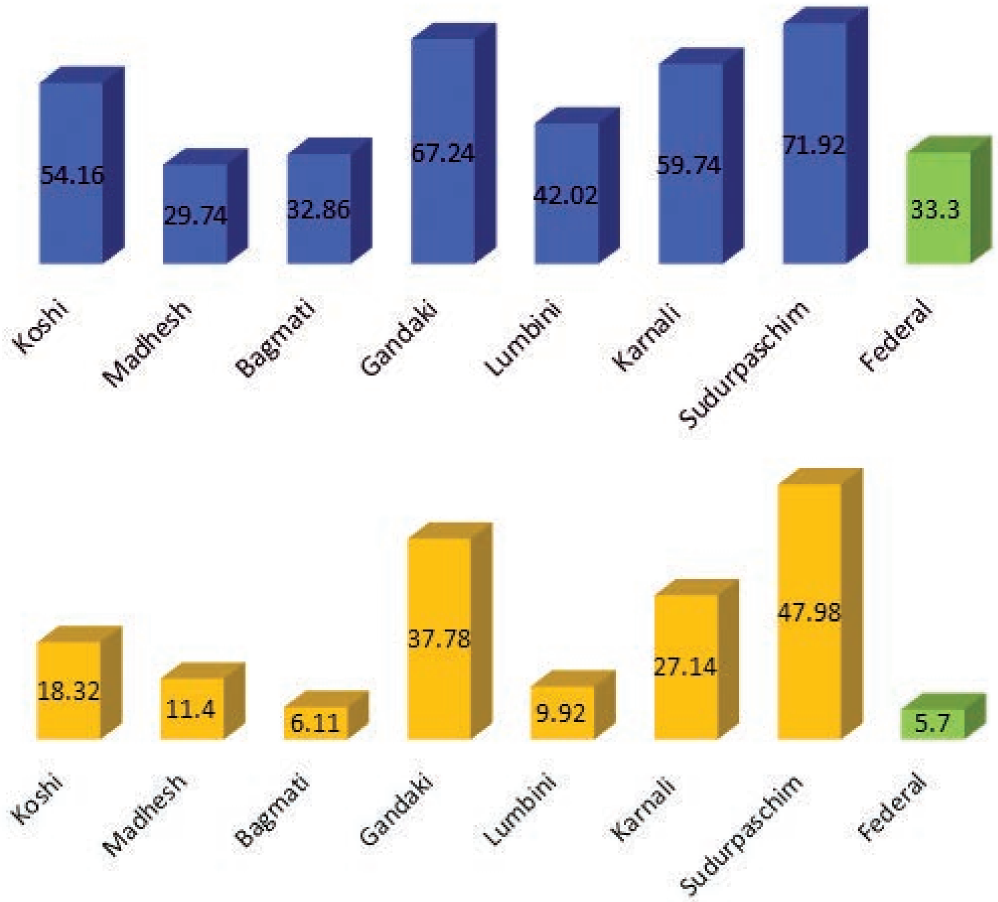

Figure 8. Percent of climate relevant budget (Direct+indirect) (upper figure) and percent of highly climate relevant budget in 2021/2022 in different provinces compared to federal average.

Enabling environment for climate finance in Nepal

Nepal has developed key policies and strategies aligned with international climate finance mechanisms including the Climate Change Policy 2019 (GoN, 2019b), Climate Change Financing Framework 2017 (MoF, 2017), National Framework on Local Adaptation Plans for Action , Action plan for the implementation of the Nationally Determined Contribution (NDC) (MoFE, 2020) and National Adaptation Plan (NAP) (GoN, 2021). This enables Nepal to access global climate funds. To enable parliamentary oversight on climate finance, a practical guide for Members of Parliament (MPs) and parliamentary staff for scrutinising the funds identified in the annual government budget and during the various stages of budgeting including its development, approval, implementation and monitoring has been prepared with the support of UNDP (Legislative Parliament, 2017).

The Ministry of Finance (MoF) and the Ministry of Forests and Environment (MoFE) are the key government bodies responsible for coordinating climate change financing and projects. Climate Finance Unit have been established in the MoF to strengthen the national capacity to manage climate financing and scaling up the funding from GEF and GCF. MoF (International Economic Cooperation Coordination Division) is also the National Designated Authority (NDA) to the GCF. Other government institutions such as Alternative Energy Promotion Centre (AEPC) and Nepal Trust for Nature Conservation (NTNC) have been accredited to GCF as Direct access Accredited Entities (national implementing entities) with the mandate to promote alternative energy for climate change mitigation and to promote the climate resilient conservation approaches respectively. Accredited Entities carry out a range of activities that usually include the development of funding proposals and the management and monitoring of projects and programmes. Banks and financial institutions are also in the process of accreditation. This enables funds to flow directly to national institutions rather than via multilateral banks. But capacity to scale up Direct Access remains limited.

Monitoring, reporting and verification of climate expenditures and results remain weak (CPEIR, 2011; MoFALD, 2018). Climate finance tracking and auditing systems need further strengthening. Sub-national governments have limited technical capacity on climate change planning and financing. More efforts are needed for provincial and local level capacity building. Private sector and communities have an important role in climate action but their access to funds is constrained. Innovative financial instruments can enhance their participation. Transparency on climate finance allocation and impacts needs improvement. Civil society has an important oversight and watchdog role on governance of climate funds.

Nepal's climate policies aim for gender-responsive approach but women continue to face constraints in accessing climate funds and benefits. Data on gender-disaggregated climate financing is lacking. Nepal received funds for disaster recovery but investment in ex-ante disaster risk reduction remains low. More resources are needed to enhance resilience and reduce impacts. Ecosystem-based adaption like forests conservation, wetland restoration etc. have huge potential but receive limited climate financing currently. Nepal's large agrarian economy is vulnerable to climate impacts. Climate finance for technologies like stress-tolerant seeds, efficient irrigation, climate-smart practices is crucial but is currently insufficient. Hydropower dominates Nepal's energy mix. Climate finance for grid integration of solar, wind, bioenergy can support energy access and diversification.

Nepal seeks climate funds for electric mobility, clean cooking etc. to address health impacts and GHG emissions from growing vehicular and indoor pollution. Nepal has initiated carbon trading mechanisms including a domestic Emissions Trading Scheme. This can unlock climate mitigation finance from international carbon markets. Nepal can play a pivotal role to promote regional cooperation, knowledge exchange and access to global climate funds in South Asia. Recent lawsuits against government inaction sets important precedents for climate responsibility and could spur policy changes to access more climate finance.

Institutional capacity to manage climate funds is still weak. Absorptive capacity and efficient use of available funds remains a big challenge. Complex fund application process, lack of quality project proposals, weak monitoring systems are some issues identified. More efforts are needed towards direct access to global climate funds and increased national budget allocations for climate change in Nepal. Stronger institutions and local capacity building are vital for better management of climate finance.

4.1.2 Financial need and gaps for climate actions in Nepal

The two important milestones for planning climate change mitigation and adaptation in Nepal include the formulation of the Second Nationally Determined Contribution (SNDC) 2020 and the National Adaptation Plan (NAP) 2021. The total finance required to implement these policies is USD 80.4 billion (GoN, 2021, 2023) (Table 5).

Table 5. Financial need for climate change adaptation and mitigation in Nepal

Policies	Finance need (in billion USD)		
Adaptation and Mitigation Policy	**Total Need**	**National**	**International**
NAP (2021-2050)	47.4	1.5	45.9
NDC (2021-2030)	33	3.4	29.6
Total	80.4	4.9	75.5
Finance Source of NAP	Domestic sources and multilateral financial institutions, bilateral development cooperation agencies, the financial mechanism and funds under the UNFCCC, international private sector finance, and other sources of external finance coming from international organisations, foundations, climate dedicated funds, and innovative sources		
Finance Source of NDC	Domestic sources and GCF, GEF, AF, LDCF, bilateral/multilateral agencies and development partners.		

The total estimated cost for implementing Nepal's National Adaptation Plan priority programs up to 2050 is $47.4 billion. Nepal will contribute $1.5 billion itself until 2050, while $45.9 billion is required from external support to fully implement the NAP by 2050. The government needs around $2.1 billion annually over the medium-term to execute the NAP. The overall cost for Nepal to implement its public sector commitments under the Nationally Determined Contributions (NDC) is estimated to be around $33 billion. As specified in Nepal's updated NDC, meeting the conditional greenhouse gas mitigation targets will require approximately $29.6 billion. Additionally, around $3.4 billion is needed to achieve the unconditional targets, mainly related to hydroelectricity generation expansion. The $3.4 billion for unconditional hydro targets will be mobilized using domestic resources. However, the remaining emission reduction targets across sectors are largely conditional upon receiving adequate international climate finance, technology transfer and capacity building support. This NDC cost estimate is limited to the activity-based mitigation targets only and does not encompass the costs of related policies, measures and actions. Significant international climate financing will be crucial for Nepal to undertake the comprehensive decarbonization initiatives outlined in its NDC document. According to National Planning Commission, Nepal needs almost US $20 billion from 2023-2025 and almost US $30 billion from 2026-2030 to achieve its SDG targets by 2030 (NPC, 2018).

About USD 5.4 billion is required per year to implement NAP and NDC until 2030. After 2030 until 2050 about USD 1.32 billion per year is required for the implementation of NAP alone (Table 6). These amounts are cumulative of both the national contribution committed and international finance to be secured. Nepal has committed to contribute USD 0.39 billion per year (USD 0.05 billion per year for NAP and USD 0.34 billion per year for NDC) from 2021 to 2030. After 2030 Nepal has committed to contribute 0.05 billion every year until 2050 for the implementation of NAP. If the provision of climate change policy of Nepal 2019 is to be realized, every year USD 4.32 billion should be invested for adaptation (USD 1.68 billion/year) and mitigation (USD 2.64/year) at local level from 2021 to 2030.

Table 6. Financial need per year in billion USD for NAP and NDC in Nepal (GON, 2021)

Policy	2021-2030	2030- 2050
NAP	2.1	1.32
NDC	3.30	
Total need per year	5.4	1.32
National commitment per year	0.39	0.05

Considering the current budget size of Nepal (NPR 1.751 trillion) and exchange rate (USD 1 = NPR 131), Nepal requires 40.85% of the current budget every year for the implementation of NAP and NDC, and have to allocate

2.95% of the current annual budget (i.e. NPR. 51.6 Arab per year) for climate change adaptation and mitigation every year from 2021-2030 as per the national commitment. Remaining 37.9% of the annual budget has to be sought from international sources.

Nepal has already been allocating 5.3% of the annual budget as highly relevant climate change budget. Therefore, Nepal's financial commitments (2.95% of annual budget per year) can be possibly met. However, securing finance (37.9%) from international sources remain uncertain.

In 2018-2019, climate finance in Nepal was USD 878 million. The 2018-2019 investment level in Nepal in climate change mitigation and adaptation was USD 0.4 billion while the climate investment potential was estimated to be USD 3.8 billion dollar indicating a huge gap in climate finance (ADB, 2023). This also means that the finance should increase manifold. An OPM study estimates that about 56.5 % of funding gaps exist to meet the climate commitments target (OPM, 2022). The government of Nepal has increased the proportion of climate-relevant budget allocations in its total budget from 10.34% in 2013-14 to 30.76% in 2017-18 (MoF, 2017; MoFALD, 2018). Of the climate budget, the highest share of 81% has been funded from domestic resources, followed by 15% from international loans and 4% from grants (ADB, 2023). This highlights that while Nepal has increased its domestic climate budgetary allocations, there is still a need to substantially enhance access to international climate financing to meet the huge costs of adaptation and mitigation. The significant increase in climate-related budget over this 5-year period indicates Nepal's commitment and efforts to prioritize climate change through national budgetary planning and expenditures. However, grants and concessional climate finance which do not add to debt remain very low. Nepal thus needs to augment the mobilization of international climate funds to complement its domestic fiscal allocations for climate action.

Both the NAP and NDC have defined the sectoral budgetary requirements. The sector requiring the maximum adaptation investment is Agriculture and Food Security at $11.2 billion until 2050, followed by Forest, Biodiversity and Watershed Conservation at $8.7 billion and Disaster Risk Reduction and Management at $8.05 billion. Tourism, Natural and Cultural Heritage requires relatively lower funds at $1.13 billion until 2050. Enabling actions and governance reform programs need $0.86 billion (GoN, 2021) (Figure 9).

Similarly, the maximum cost for implementing NDC is required for the Energy sector (USD 22.18 billion), Agriculture and other land use (USD 3.95 billion), and Forest (USD 3.15 billion). The sectors requiring least cost for NDC implementation are GESI and Governance (USD 0.15 billion) and Urban Settlements (USD 1.06 billion) (GoN, 2023).

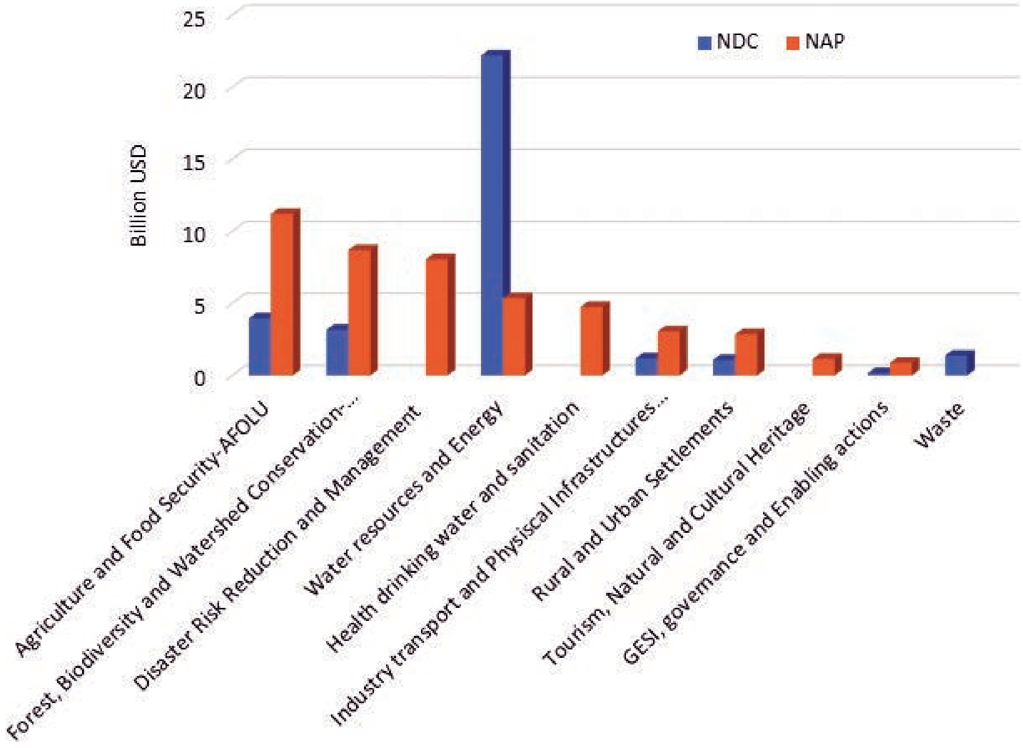

Figure 9. Sectoral Need for mitigation (NDC) and adaptation (NAP)

According to the Government's plan, the NAP and NDC actions will be integrated into the fiscal budget as different projects, policies, or programs to be carried out during the coming decades. These initiatives are in line with the nation's current policies and programs and therefore a strong ownership and timely implementation is expected at both the national and subnational levels. Adaptation and mitigation interventions are overlapping in the policies, so are the cost of the interventions (Figure 9). If planned well, mitigation and adaptation actions can go together co-benefiting each other. This will help to reduce the cost.

Nepal hopes to receive funding, technology, and capacity-building assistance from international funds like the Green Climate Fund, Global Environment Facility, Adaptation Fund, Least Developed Countries Fund, as well as bilateral and multilateral agencies, development partners, international private sector funding, and other external funding from foundations, international organizations, funds specifically dedicated to climate change, and creative sources. These funds will be used to support the technical expertise and constrained national resources needed to increase climate action.

4.1.3 Effectiveness of climate funds

Nepal has been able to access over USD 4.416 billion from major global climate funds like the Green Climate Fund, Global Environment Facility, Climate Investment Funds and Adaptation Fund as well as multilateral development banks for climate mitigation and adaptation projects (OPM, 2022). However, the utilization rate of approved climate finance has remained around just 50-60% reflecting underlying challenges in fund absorption and implementation capacities within the country (ADB, 2023; OPM, 2022).

Majority of the climate change projects implemented in Nepal are adaptation focused. Out of the 74 projects analyzed in this study, 35.1% were adaptation focused, while 31.1% were mitigation focused and the rest (33.8%) had mixed (both) types of interventions (Figure 10a). However, the actual finance received for adaptation and mitigation sector is difficult to disaggregate. This is mainly because most project reports lack mitigation and adaptation budget breakdowns affecting accurate calculations (Rai et al., 2020).

Nepal has prioritized climate adaptation investments given its high vulnerability, with historical estimates indicating that around 80% of its climate expenses in 2011 went to adaptation activities. Of this, 90% was allocated as capital expenditures for creation of assets (NPC/UNDP/UNEP/CDDE, 2011; NPC, 2012). During 2009-2014, nearly 46% of the total climate finance received, approximately USD 538 million, supported climate adaptation (Dixit et al., 2016). This highlights that the government has been the major implementing body of adaptation projects funded by international climate finance historically, with significant focus on capital investments in infrastructure, technologies, ecosystems etc. However, Nepal's rapidly increasing climate risks imply that the current levels of adaptation financing remain inadequate.

Globally, between 2021 and 2022, 91% of public climate finance was invested in mitigation activities aimed at reducing greenhouse gas emissions. In comparison, the adaptation sector received only about 5% share of the total public climate finance in 2021/2022. The rest about 4% were invested in dual benefits (Buchne et al., 2023). Nepal also needs to increase its focus on climate change mitigation efforts in addition to adaptation. Areas of action should include maximizing benefits from international mechanisms such as the Clean Development Mechanism (CDM) and results-based payments for Reducing Emissions from Deforestation and Forest Degradation (REDD+) (Mahat et al., 2019).

Scaling up mitigation activities related to reducing greenhouse gas emissions across sectors, along with effectively tapping into global carbon finance instruments like CDM and REDD+, can help Nepal contribute to global climate action. This can also provide additional resources to supplement domestic climate financing.

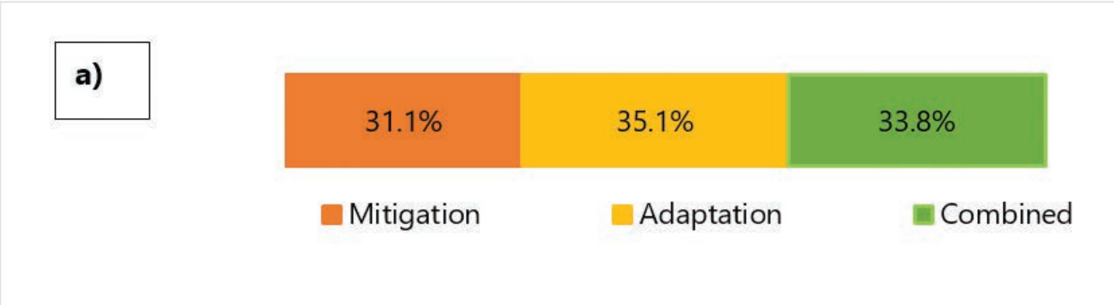

Figure 10. Distribution of climate change projects in Nepal 2007-2023 (n=74) (a), Progress of climate change actions in Nepal (Values are the average score out of 100 provided by the experts during consultations) (b)

During the consultations, the progress of climate action in Nepal were also assessed. The actions considered for the assessment were i) policy/ plan development, ii) research and capacity building, and local level hardware interventions. Result shows that the major progress has been made in the policy and plan formulation (90%) followed by research and capacity building (35%), and least progress on the local level interventions (12%) as shown in Figure 10b. As indicated in the result, Nepal has developed several climate change related plans at local level including Local Adaptation Plan of Action, Local Disaster Risk Management Plan, Local Disaster and Climate Resilient Plan. The Economic Survey report shows that 241 Local Adaptation and Climate Resilient Development Plan are being implemented in Nepal (MoF, 2022). According to Mahat et al., (2019), of the 71 initiatives between 1997 and 2014, about 42% of the initiatives were related to the capacity building and awareness raising. Training and workshop have been organized as part of the capacity building initiatives. Policy formation has increased while the capacity building initiatives has decreased. This indicates that the climate initiatives in recent decade was more focused on policy formulation and institutional development, possibly due to the restructuring of the state (IIED, 2014). Around 15% of the total climate finance has focused on important policy and institutional development objectives which has enabled frameworks like the Climate Change Policy, Climate-Sensitive Budget Codes, and Municipal Adaptation Plans of Action. However, more efforts are needed to build technical capacities at the provincial and local government levels to plan and manage climate funds.

The areas receiving most climate finance allocation are clean energy projects focused on hydropower and solar power installation, climate-resilient agriculture initiatives, flood control and irrigation infrastructures, and community forest management. But support for effectively managing loss and damage from unavoidable climate impacts has been inadequate. At the community level, ecosystem-based adaptation initiatives have provided some relief to vulnerable rural households through activities like restoring wetlands, forests, and water sources as well as building small infrastructures like flood shelters.

Mitigation Effectiveness

In climate mitigation, clean energy projects have increased energy access and installed renewable capacity, especially solar and hydropower. But the pace and scale of renewable energy growth remains below potential. Low-carbon mobility initiatives like electric vehicles and mass transit are still nascent in cities like Kathmandu. Overall, emissions reductions from mitigation projects have likely been modest relative to the rapid growth in Nepal's emissions across sectors like transportation.

The GHG emission over the last two decades (2000 and 2010) have increased sharply (Figure 11). The emission gap in 2010 was 0.028 Gigaton CO2 equivalent in Nepal (MoFE/ GoN, 2021). This could be even higher at recent years. However, the good news is several climate change mitigation projects are being undertaken in Nepal that have high potential for climate change mitigation. For instance, the three GCF projects that are being undertaken from 2020-2027 will alone avoid 0.017 Gton CO2 Eqv emissions (Table 7). With the increasing scenario of forest cover area, Hydropower capacity, Alternative Energy use such as ICS and Biogas, it is likely that more emission will be reduced. Yet, recent accounting of mitigation potential of these sector is lacking.

Figure 11. GHG Emissions change over the last decade 2000-2010 (MOFE/ GoN- TNC, 2021)

Table 7. Mitigation potential of the GCF projects

GCF projects	Ton Carbon Avoided	Duration
FAO	11500000	2020-2027
IUCN	847300	2021- 2028
AEPC	6500000	2022-2027
Total	**18847300 (0.017 Gton CO_2 Eqv)**	

Adaptation effectiveness

In climate adaptation, projects focused on ecosystem restoration, climate-smart agriculture, flood control infrastructure, irrigation management and drinking water supply have provided tangible benefits to vulnerable communities through increased water availability, reduced disaster risks and higher farm productivity. For example, the Adaptation Fund-supported flood warning systems installed in river basins have helped save lives and reduce losses by allowing early evacuations. However, there are gaps in sustained operations and maintenance of created assets.

The case study of the two climate change adaptation projects was conducted in this study. The interventions were categorized into Human, Natural Resources, Physical, Social and financial and a Likert scale of 5 was used to rank the interventions based on its effectiveness for climate response and livelihood support. The adaptation interventions received an average score of 2.45 (out of 5) meaning that the interventions are helping enhance adaptive capacity. Therefore, it can be concluded that ongoing adaptation interventions are effective for climate change response and livelihood support. The findings also indicate that the intervention made in natural resources sector have high potential for enhancing the adaptive capacity (Figure 12). The adaptive capacity enhancement by intervention in different sectors follows the order Natural> Physical> Social> Human > Financial. Some example of these interventions included in this study are:

i. **Human:** Training/ capacity building, awareness
ii. **Social:** Formation of institutions (formal, informal to tackle and manage climate change issues)
iii. **Physical:** Infrastructure development and construction (irrigation canal, river training works)
iv. **Natural resources:** afforestation, construction of recharge/ stream ponds
v. **Financial:** Revolving funds, Grants support

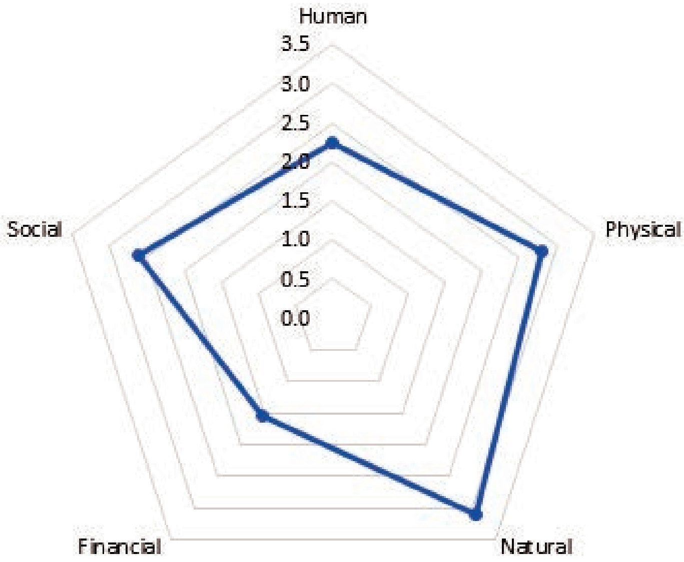

Figure 12. Average score for different types of CA interventions for the Livelihood support. Ranks are based on the result of the end line project survey

At the local level, nine programs are repeatedly included in the climate change program by local government of Nepal over the last three years (Figure 13). The conditional grants for energy and climate change from federal government are timely completed. Other incomplete programs in a fiscal year are continued next year. In some cases, capital expenditure such as purchasing an ambulance was found to be linked with climate change programs. There is confusion on the separation between the climate change impacts and human induced impacts due to which effective climate change adaptation and mitigation planning has become difficult. More research and capacity building are required to improve this situation. Timely completion of the allocated programs and budget is vital to enhance the effectiveness of climate change programs.

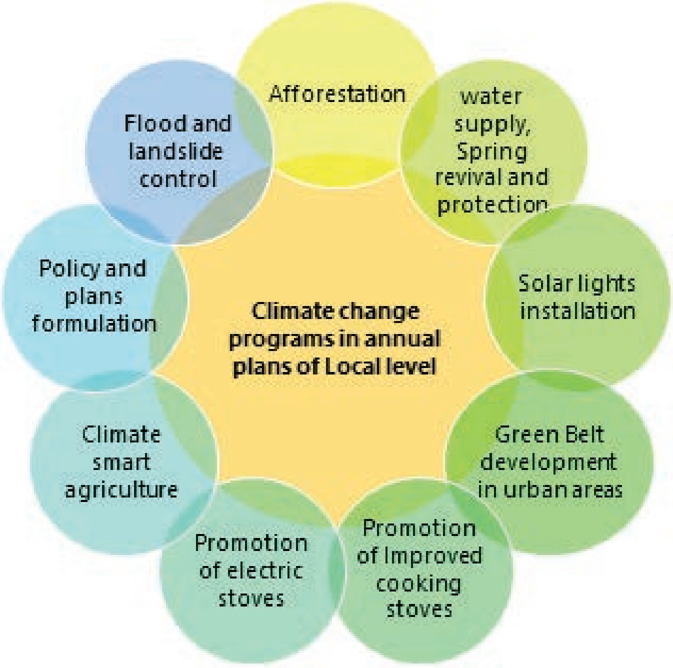

Figure 13. Climate change programs in the annual programs and plan of local governments synthesized from the discussion with eight local governments of Kathmandu valley

Monitoring, evaluation and transparent reporting systems for climate actions remain weak leading to issues in tracking fund utilization and assessing project impacts especially at the community level. Many initiatives lack baseline data which constrains impact evaluations. This creates uncertainty on whether stated climate adaptation and resilience goals are being achieved on the ground.

Overall coordination across stakeholders from government, civil society, academia, private sector, communities has been a persistent challenge resulting in fragmented climate actions across sectors, ministries, and levels of government. Gender mainstreaming in both climate funds allocation and targeting of interventions has been limited although policies aim for a gender-responsive approach. Direct access to global climate funds has increased through accredited domestic entities but fund approval procedures are complex affecting timely delivery and disbursement. Adoption of innovative climate technologies and solutions for building resilience and reducing emissions has been modest in key sectors like agriculture, infrastructure and disaster management.

Nepal has struggled to fully utilize the funds allocated to it under the System for Transparent Allocation of Resources (STAR) by the Global Environment Facility (GEF). As per available data, when Nepal was allocated US$24.29 million by STAR under three areas: climate change, biodiversity and land degradation - it was only able to utilize 79% of the available resources, which amounts to US$19.28 million. This indicates that Nepal was unable to spend 21% of the allocated STAR funds by GEF, highlighting challenges in absorptive capacity and execution of projects financed by international climate funds (Mahat et al., 2019).

The inability to fully utilize allocated resources prevents Nepal from maximizing the benefits of international climate support it receives. Enhancing absorptive capacities by addressing underlying barriers around institutional capabilities, human resources, policies and procedures could help Nepal improve its utilization rates and bridge the financing gap.

A major barrier affecting project effectiveness is the lack of technical and institutional capacities at provincial and local government levels to sustainably implement climate actions on the ground. Community-level projects often face challenges of ownership and participation beyond pilot stages. Monitoring, evaluation and learning systems are not adequate to provide feedback for course correction.

4.1.4 Transparency assessment

Transparency is critical for building trust and accountability among nations regarding climate action and support. Regular, transparent reporting on emissions, policies, climate impacts, and finance flows enables effective tracking of collective progress and gaps. When climate actions are measured and results are public, it encourages countries to enhance their commitments to avoid lagging behind. Transparency allows civil society to hold governments accountable and understand where climate vulnerabilities lie. Transparency stimulates more ambitious climate action and empowers broader constructive engagement in the global climate conversation. It is an essential foundation for making continued progress on climate change.

Transparency under the Paris Agreement refers to the reporting of information by a Party in its BTR (including information on the national GHG inventory, the accounting approach(es) selected and the indicators used for tracking progress and support provided and received) and the assessment of that information through a technical expert review and FMCP.

Based on the Enhanced Transparency Framework (ETF) based CFTC, the score was provided for each criterion (Table 8). The score value of 8 was received for overall criteria. This indicates that the climate finance mechanism in Nepal is moderately Transparent.

Table 8. Score received by climate finance transparency criteria (CFTC)

SN	Climate finance transparency criteria (CFTC)	Score	Remarks/ Reference
1	GHG inventory- sources and sinks of emission	1	Third national communication report, 2021
2	Information on Climate change impact and vulnerability	1	Synthesis of stocktaking report for National Adaptation Plan (NAP) formulation process in Nepal; Vulnerability and Risk Assessment and Identifying Adaptation Options

4	Information on adaption need and priorities	1	NAP
5	Information on Indicator to track progress of NAP	0	
6	MEAL on Climate change adaptation and mitigation policies	0	
7	Mitigation policies and measures	1	NDC, LTSNZE
8	Indicators to track progress of mitigation	1	NDC implementation plan 2023
9	Financial support needed	1	NAP and NDC
10	Financial support received from multilateral, bilateral, regional and other channels and mobilized	0.5	Tracked using aid management information system but not for climate change https://amis.mof.gov.np/
11	Financial support received from UNFCCC channels	0	
12	Financial support mobilized from domestic sources	1	Climate change budget coding
13	Technology development and transfer support needed and received	0	
14	Technology development and transfer support received	0	
15	Information on capacity building support needed	0	
16	Information on capacity building support received	0	
17	No complaints regarding climate finance related programs at CIAA or court	-0.5	complaints record received at CIAA
18	No Cases of corruptions in climate programs	1	
	Total Score	**8**	

Nepal has made some progress in improving transparency of its climate finance flows and utilization but significant gaps persist. As a climate vulnerable LDC, Nepal has received funds from global climate funds like the Green Climate Fund, Global Environment Facility, Climate Investment Funds and Adaptation. It has also received bilateral climate finance from agencies like USAID, JICA, DFID. However, a centralized public portal for providing real-time data on approved climate projects, committed funds, disbursements and expenditures is still lacking.

The Climate Change Financing Framework and Budget Code are at place to track and tag the allocation, progress and transparency of climate programs and projects (Figure 14). Climate change financing framework facilitates the integration of national policies and strategies relating to climate change finance in budgeting process and help the government to channelize all climate projects and streamline investments through the national system for a long-term scaled up approach (MoF, 2017). Climate change budget codes have been introduced since 2013 to tag and track climatic expenditures across programs. But application is still limited to a few ministries and the tagging has been subjective.

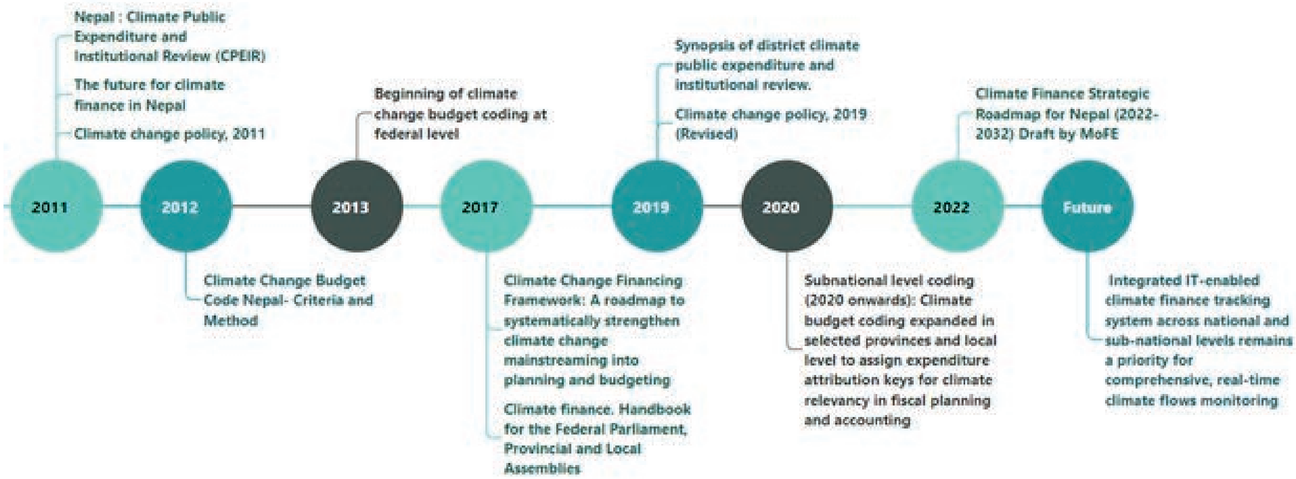

Figure 14. The evolution of climate financing and tracking in Nepal

Transparency has been the guiding principles of NAP and NDC (Figure 15). NAP aims to promote transparency, better decision making and enhanced implementation of NAP through multi-stakeholder engagement, coordination and co-operation (GoN, 2021). NAP has committed to transparently track adaptation finance received from various sources. A web-based tool will be developed and maintained to record the support obtained. The Ministry of Forests and Environment will establish a Climate Change Data Management, Monitoring and Reporting Center. This will compile and analyze adaptation data and information. The collection of data will be harmonized with the monitoring and evaluation processes for Nepal's Nationally Determined Contribution, Sustainable Development Goals and Green, Resilient and Inclusive Development (GRID) strategic plan. This integrated approach intends to enable coherent monitoring and transparent tracking of adaptation finance from multiple sources. The web-based system will facilitate recording and reporting of the adaptation funding received across these interconnected climate and development frameworks that Nepal has adopted. A new transparency and accountability framework will be developed as part of the 'Monitoring, Review and Reporting (MR&R) framework that would be in line with the climate change policy 2019 to stimulate learning, and ensuring accountability and transparency by setting clearly defined indicators.

NAP

- promote transparency, better decision making and enhanced implementation of NAP through multi-stakeholder engagement, coordination and co-operation
- committed to transparently track adaptation finance received from various sources
- web-based tool will be developed and maintained to record the support obtained
- MoFE to establish a Climate Change Data Management, Monitoring and Reporting Center
- collection of data will be harmonized with the monitoring and evaluation processes for Nepal's Nationally Determined Contribution, Sustainable Development Goals and Green, Resilient and Inclusive Development (GRID) strategic plan
- new transparency and accountability framework to be developed as part of the 'Monitoring, Review and Reporting (MR&R) framework
- The Local Climate Adaptive Living (LoCAL) mechanism of UNFCCC shall be used to channel climate finance to the local level in the form of Performance Based Climate Resilient Grants

NDC

- promote data-driven tracking of targets along with strengthening the data generation and validation systems
- Best practices will be identified while also incorporating lessons learned from past monitoring, reporting and verification (MRV) approaches
- Transparency to be maintained by widely disseminating the methodology and results of the MRV processes

Figure 15. Transparency in NAP and NDC

Nepal's Nationally Determined Contribution (NDC) aims to promote data-driven tracking of targets along with strengthening the data generation and validation systems. Best practices will be identified while also incorporating lessons learned from past monitoring, reporting and verification (MRV) approaches (MoFE, 2020). Transparency will be maintained by widely disseminating the methodology and results of the MRV processes. This underscores Nepal's commitment to robust MRV of NDC targets based on sound data and evidence. The learning and transparency elements are key to building accountable and effective MRV (GoN, 2023). Implementation of the policies, measures, strategies, and actions of NAP and NDC will be accounted in the Biennial Transparency Report. With CBIT, NDC and NAP implementation kicking off, the transparency level is likely to increase in the coming years.

During the implementation of the NAP, the transparency mechanism is expected to improve with the appraisal of the current criteria and procedures used to allocate the climate change budget in the fiscal budget at all levels. It is expected that the Local Climate Adaptive Living (LoCAL) mechanism of UNFCCC shall be used to channel climate finance to the local level in the form of Performance Based Climate Resilient Grants to ensure that 80% of the fund would reach the local level and the interventions are cost effective (GoN, 2021).

Assessments show that Nepal's current Public Financial Management (PFM) system is inadequate to properly prioritize, manage and distribute climate finances at the local level. This makes tracking and reporting of climate change expenditures problematic at local bodies (MoFE, 2021a). Hence, information on the amount of climate funding allocated and utilized at local levels remains scarce. Many stakeholders at provincial and municipal levels are still unaware of climate change policies and funding provisions. The limitations in decentralized PFM and lack of awareness constrain efficient utilization and accountability of local climate budgets.

While Nepal has committed to contribute its own resources and mainstream climate in fiscal budgeting, clear reporting on annual climate finance provided from domestic public funds remains inadequate. Gender-disaggregated data on climate funds allocation and beneficiaries also suffers gaps despite stated goals on gender-responsive approaches. Independent validation and audits of adaptation and mitigation expenditures do not regularly take place although civil society engagement has increased.

A study found that vulnerable farmer groups like women, ethnic minorities and poor farmers in Nepal were less likely to access climate finance subsidies compared to wealthier and non-minority farmers (Kafle et al., 2022). Despite government agencies giving preference to women and minority farmers in selecting beneficiaries, an unrepresentative applicant pool resulted in inequitable distribution of subsidized climate finance. Social and institutional barriers prevented vulnerable farmer groups from even applying to the climate finance program, skewing the beneficiaries towards more privileged groups. This highlights that even when policies aim for equitable access to climate funds, marginalized communities can face constraints in availing schemes due to lack of awareness, resource limitations, social discrimination and bureaucratic hurdles. Targeted outreach, simplified procedures, local language assistance and capacity support are essential to ensure climate finance reaches and benefits the most vulnerable communities as intended in Nepal.

At the project level, major multilateral climate funds like GCF and GEF have detailed templates for monitoring, reporting and evaluation which Nepal follows. However, synthesized national reports and ex-post impact evaluations for learning are limited. Sub-national and community-based climate initiatives particularly lack robust monitoring mechanisms. Public disclosure practices are weak with minimal information on project costs, completion status, beneficiaries shared on government websites, although some project implementers voluntarily provide details.

In terms of governance, Nepal has formed high-level bodies like the Climate Change Council and Climate Change Management Committee for oversight and coordination across agencies. But federalization has posed challenges for integrated transparency systems between national and sub-national levels which have varying capacities. Parliamentary oversight on use of climate funds and results also remains minimal.

Nepal faces challenges in accurately and independently analyzing the adaptation finance and broader climate finance it receives due to a lack of transparency from donor countries and organizations. Many major donors are unwilling to make full project documents publicly available, which hinders efforts by Nepali stakeholders to evaluate if the climate finance aligned with national, regional and local needs and priorities (Rai et al., 2020). Specifically, there is very limited access to detailed project plans, budgets, and reporting for much of the climate finance Nepal receives. Researchers attempting to analyse and track adaptation spending flows face great difficulty in accessing complete project documentation. The scope and scale of this analysis is constrained by the sheer lack of transparency around climate projects, their financing, activities, and outcomes.

This pervasive issue prevents comprehensive assessment of whether pledged international climate finance reaches Nepal in sufficient volumes, whether project activities match with adaptation priorities identified by Nepali communities and experts, and whether this spending achieves meaningful impacts or suffers from inefficiency and mismanagement. With donors resistant to transparency, the Nepali government, civil society, academia and other domestic stakeholders cannot fully play their necessary oversight and accountability role around external climate financing. Achieving greater transparency from both international and domestic climate actors is crucial for ensuring adaptation finance effectiveness in Nepal.

Nepal has recognized gaps in climate finance transparency and made a start towards tracing flows through budget codes, expenditure reviews and some disclosure practices, considerable scope remains for improving data availability, reporting comprehensiveness, independent verification, monitoring effectiveness, participation and oversight across governance levels to build a robust, holistic climate finance transparency system.

4.2 Strength of national institutions in managing climate funds

4.2.1 Institutions for climate finance management

The Climate Change Policy of Nepal in 2019 suggested an institutional framework to address climate-related challenges. This framework aimed to establish specialized bodies, enhance existing institutions, and create mechanisms for effective coordination, planning, and implementation of climate change initiatives (Table 9). Different institutions have been envisioned by the climate change policy of Nepal which includes the following:

- **Council:** formed to maintain policy coordination on matters of climate change at the national level and functional coordination made by the Ministry of Forests and Environment.
- **Inter-ministerial coordination committee:** formed under the coordination of Ministry of Forests and Environment for having coordination in climate change related matters
- **The thematic Provincial ministry:** entrusted with the responsibility of climate change matters at province level will coordinate the actions related to climate change at the province.
- **Climate Change Section, Unit or Focal point:** at the local level and in the concerned thematic ministries of the federation and province
- **Climate Change Research Center:** established to facilitate research, technology development and expansion relating to climate change mitigation and adaptation.

Based on the institutional framework of the Climate Change Policy, several institutions have been formed and envisioned for the implementation of climate change adaptation (NAP) and mitigation (NDC) in Nepal, which play their part in climate finance management in Nepal (Table 4).

Table 9. Institutional framework of climate change management in Nepal

Level	CC Policy	NAP	NDC
Federal	Council	Environment protection and climate change management national council (EPCCMNC)	High level monitoring and policy direction committee - Environment protection and climate change management national council (EPCCMC) High-level multi-stakeholder climate change directory committee
	Inter-ministerial coordination committee will be formed under the coordination of Ministry of Forests and Environment	Ministry of Forest and Environment- Climate Change Management Division (MOFE-CCMD)	MOFE- CCMD
	Climate Change Research Centre	MOFE- Climate Change Management Monitoring and Reporting Centre	Ministry of Foreign Affairs and General Administration (MoFAGA)
		Inter-Ministerial Climate Change Coordination Committee (IMC4)	Inter-Ministerial Climate Change Coordination Committee (IMC4)

		Thematic and cross cutting working groups	Thematic and cross cutting working groups
		National Planning Commission	
		Line ministers, Gov. Agencies, Private sectors	
		Office of the Auditor General (OAG)	Office of the Auditor General (OAG)
Provincial	thematic ministry entrusted with the responsibility of climate change matters at province level	Provincial Environment Protection and Climate Change Management Council	Provincial Environment Protection and Climate Change Management Council
		Ministry of Industry, Tourism, Forest and Environment (MoITFE)-Science, environment and climate change division	
		Provincial Climate change coordination committee (PC4)	Provincial Climate change coordination committee (PC4)
		Provincial Policy and Planning Commission	
		Line ministers, Gov. Agencies, Private sectors	
Local	Climate Change Section, Unit or Focal point	Local level Executive Board	
		Forest, Environment and Disaster Management Division/ Section/ Unit	
		District Climate Change coordination committee (DC4)	Local Level coordination committee

The Environment Protection and Climate Change Management National Council (EPCCMNC) provides strategic guidance to mainstream NAP and NDC actions into policies, plans and programs at all levels of government. The Inter-Ministerial Climate Change Committee (IMCCCC) is responsible for overall coordination of NAP and NDC implementation's technical aspects, and communicating NAP priorities and NDC targets across the three tiers of government. The Ministry of Forests and Environment (MoFE) through Climate Change management division leads the overall NAP and NDC implementation process, and is responsible for adaptation policies, laws, strategies; providing guidance and support to provincial and local governments; monitoring, reporting and review of adaptation actions; annual reporting on adaptation; and approving internationally funded adaptation projects. The National Planning Commission assists MoFE in integrating climate change adaptation into planning processes to ensure climate-resilient plans/programs, and with monitoring and review of the NAP. The Ministry of Finance works to increase access to domestic and international finance, and coordinates climate finance through its dedicated unit.

Nationally Determined Contribution (NDC) Implementation Plan, 2023 envisages the formation of a high-level multi-stakeholder climate change directory committee involving minister and secretary-level representation of relevant ministries and other government agencies as well as relevant non-government stakeholders that include the NGO Federation, NEFIN, IPPAN, FECOFUN and Private Sector working in energy technology for the implementation of NDC. It identifies the importance of the establishment and operation of Informal Groups including women, IP and CGs for discussion on matters related to NDC implementation, financial arrangement for that and preparation of communication reports; recognizing government and non-government stakeholders concerned on climate change and preparation of a roadmap for the involvement of multi-stakeholders in the policy process and reporting mechanism. It has allocated an indicative budget for these action plans.

Sectoral ministries at federal level establish climate change units to mainstream the NAP and NDC into respective policies, planning and activities. Relevant ministries also lead Thematic and Cross-Cutting Working Groups to integrate adaptation into sectoral policies and plans. Provincial Climate Change Coordination Committees

(PC4), established in the seven provinces, are responsible for integrating and mainstreaming climate adaptation provincially through vertical linkages with federal level, integrated provincial approaches, and building provincial capacity. District Climate Change Coordination Committees to be established for facilitating NAP implementation at district level under leadership of mayors/chairpersons. Local Executive Boards oversee and provide strategic guidance to coordinate NAP implementation through adaptation actions at local levels, while local level coordination committees will be formed for the coordination of the NDC implementation.

The Ministry of Federal Affairs and General Administration (MoFAGA) plays an important coordination, monitoring and technical assistance role for climate change activities across provincial and local governments in Nepal. MoFAGA is responsible for coordinating the alignment of sub-national climate actions with national policies, facilitating implementation support for Local Adaptation Plans of Action, improving public finance management capacities of local bodies on climate budgeting, accounting and expenditure tracking, providing technical and institutional backstopping to integrate climate priorities in local planning and budgeting, as well as building capabilities of municipalities on raising funds from local sources for adaptation and mitigation needs. MoFAGA serves as the key ministry overseeing, supporting and building capacities of provincial and municipal governments to undertake coherent and effective climate change programs, access required financing, and integrate climate objectives in their fiscal planning and development. The ministry's engagement is crucial for translating national climate change policies and priorities into results on the ground.

At the local level, the Forest, Environment and Disaster Management Section is responsible for facilitating climate adaptation activities; monitoring, reporting and review of adaptation actions; raising public awareness on adaptation; implementing local adaptation projects related to environmental conservation, biodiversity, agriculture, livestock, watersheds, wildlife etc.; and integrating adaptation into local services like health, sanitation, agricultural extension and drinking water. Development partners, international and national NGOs, private sector, academia, networks and associations have a crucial role in implementing the NDCs and the NAP. Sub-national governments have limited decision-making role and technical capacity on climate finance management currently. Efforts should be optimized to empower provincial and local bodies.

Dedicated national implementing entities like the AEPC and NTNC can directly access and manage some global climate funds under Direct Access modality. Multilateral development banks like WB, ADB and UN agencies act as intermediaries to channel global climate funds and implement projects.

The Office of the Auditor General (OAG) serves as the supreme audit institution in Nepal mandated by the constitution to audit the accounts, expenditures and programs implemented by the government at all levels. Regarding climate finance, the OAG plays a critical oversight role by assessing the performance of climate-relevant activities against their defined key result indicators, conducting specialized financial and compliance audits of climate projects and expenditures across national and sub-national agencies, and preparing tailored guidelines for auditing climate change programs. Through these functions, the OAG aims to ensure accountability, responsiveness and transparency in the utilization of climate funds by the government. The audit findings and recommendations of the OAG provide an independent review of the management of climate finances and help identify measures for enhancing efficiency and efficacy of climate investments.

4.2.2 Institutional strengths and challenges in managing climate funds

A good institutional setup increases the effectiveness of strategies to secure needed financing for adaptation and mitigation (Murphy & Parry, 2023). Nepal has made some progress in establishing dedicated institutions and mechanisms for governing climate finance flows and investments. The Climate Change Management Division under the Ministry of Forests and Environment and the Climate Change Financing Unit at the Ministry of Finance are the key bodies that coordinate climate funds. Nepal has also set up specific climate budget tracking mechanism like the Climate Change Budget Code and Climate Financing Framework along with bodies like the EPCCMNC and IMC4 for oversight and coordination across sectors.

However, institutional capacities remain weak in effectively planning, accessing and absorbing the increasing volume of international climate finance. Challenges arise from the complex approval processes, limited technical expertise to develop fundable projects, delays in procurement and expenditures, and weak monitoring systems. Absorption of approved funds has been very low. While policies articulate priorities, translating these into implementable programs remains a bottleneck. The frequent transfers and turnover of key experts across institutions hampers institutional memory and continuity.

After federalization, sub-national governments are now responsible for planning and budgeting but lack technical capacities on climate change. Local participation in climate project decisions has been limited. Mainstreaming of climate across provincial and municipal governance systems is still nascent. Coordination between federal, provincial and local authorities on climate actions and finances faces systemic hurdles.

Monitoring, evaluation and verification of climate projects and reporting of results has been weak which constrains learning and accountability. Independent audits and oversight of climate expenditures do not regularly take place. Parliamentary scrutiny of climate finances has been minimal till recently. Transparency and public access to climate funds data remains low, although improving. Some of the specific institutional challenges are given below :

- Tracking and reporting of climate expenditures through government systems remains weak.
- Monitoring, evaluation and verification of climate actions for results-based finance is inadequate due to the lack of standard impact indicators and protocols.
- Insufficient audit and oversight of climate spending as well as the lack of parliamentary scrutiny and independent evaluation.
- Transparency and information disclosure on allocation and utilization of climate funds is limited but improving through public finance portals and civil society engagement.
- Nepal's ability to spend allocated climate funds efficiently remains low due to complex procedures, lack of viable project proposals, delays in procurement and expenditures.
- Mechanisms to flexibly reallocate climate funds across priorities based on emerging risks, needs and performance require strengthening.
- Engagement with private sector through public-private partnerships in renewable energy, eco-tourism etc. offers potential to enhance climate finance leverage and efficacy.
- Climate capacity building of government officials around transparency, accountability, gender considerations and stakeholder engagement is important.
- Provincial and local level climate change committees must be empowered in planning, budgeting and oversight of adaptation and mitigation.
- Nepal can enhance its climate finance readiness by learning from its neighbours like India and Bangladesh's experience with large climate funds.

4.3 Climate finance risks and mitigation strategies

4.3.1 Climate finance risk

Managing climate finance in Nepal comes with several inherent risks and challenges. One prominent risk is the potential for inadequate governance and oversight mechanisms, leading to misallocation or misuse of funds. Given Nepal's administrative complexities and varying capacities at different levels, there's a risk of inefficiencies in fund utilization and implementation (ADPC, 2023; OPM, 2022). Moreover, the dependency on external sources for climate finance exposes Nepal to uncertainties related to the continuity and availability of these funds. Challenges in accurately assessing climate-related risks and aligning financial resources with the most pressing needs of vulnerable communities also pose significant risks. Additionally, the lack of robust monitoring and evaluation systems might hinder tracking the impact and effectiveness of funded projects, impacting the ability to course-correct or learn from experiences. The list of climate finance risk is given in Table 10 below.

Table 10. Climate finance risk in Nepal

Nature of risk	Risk
Governance and capacity risks	Weak institutions, lack of transparency and accountability, low technical capacities can lead to mismanageme nt and corruption. Any major climate fund corruption scandal can affect trust and future finances. Nepal's provincial and municipal governments lack technical expertise to manage climate finances and projects.
Macroeconomic risks	Over-reliance on external climate finance creates fiscal instability and debt sustainability issues.
Policy and regulatory risks	Gaps, inconsistencies and delays in policies and approval processes affects fund absorption.

Technical risks	Lack of feasible proposals, project management skills constrains access to competitive global climate funds.
Environmental and social risks	Poor impact monitoring and risk mitigation can lead to maladaptation and harm.
Fossil fuel-dependency risks	Over-reliance on fossil fuels to drive the economy makes Nepal's efforts for low carbon transition more challenging. Phasing out of fossil fuels without adequate social protection can cause job losses.
Disaster management risks	Nepal's recurring natural disasters like floods, landslides dissipate limited climate adaptation resources towards post-disaster recovery.
Gender and social inclusion risks	Scattered GESI-sensitive climate policies hinder women's and excluded groups access to climate funding opportunities. Nepal's remote mountainous terrain makes it difficult to reach climate funds to indigenous communities and marginalized groups creating Gender and social exclusion risk.
Public accountability risks	Weak parliamentary oversight, insufficient media coverage, civil society constraints hampers transparent use of climate funds. Lack of meaningful consultations and communications with provincial and local governments, private sector and communities.

4.3.2 Mitigation measures

There are institutions at place. These risks and challenges have been realized by the concerned agencies and strategies to curb them have been reflected in the national policies such as Climate Change Policy, National Adaptation Plan and Nationally Determined Contributions. Yet, the effective implementation is again doubtful. Accountability of the institution and stakeholders is crucial. The above-mentioned risks call for a focused approach on capacity building, transparent governance structures, risk assessments, and improved monitoring frameworks to mitigate these challenges in managing climate finance in Nepal. The risk mitigation measures include:-

- **Strengthen institutional capacity -** Provide regular training to government officials on climate finance project management, transparency, and accountable systems.
- **Enhance absorptive capacity -** Simplify fund approval procedures, provide technical assistance to sub-national bodies for quality project proposals.
- **Implement robust oversight systems -** Establish independent audit, parliamentary oversight committees for climate expenditures. Engage civil society in monitoring.
- **Manage macroeconomic risks -** Develop debt sustainability frameworks, explore debt swaps, green bonds, and fiscal buffers to reduce over-reliance on external climate finance.
- **Mainstream climate across policies -** Make climate risk screening and climate budget tagging mandatory for infrastructure and private investments.
- **Decentralize climate finance -** Empower local governments and communities through climate change funds allocation, capacity building, monitoring and knowledge exchange.
- **Focus on gender and social inclusion -** Set quotas for women's access to climate funds. Target indigenous groups and remote areas.
- **Invest in ecosystem resilience -** Increase allocations for nature-based solutions like forests, wetlands, watersheds conservation which provide cost-effective adaptation.
- **Enhance regional cooperation -** Pursue transboundary climate programs with China, India and other South Asian countries to manage shared risks and access larger resources.
- Improve and strengthen climate budget tagging across all ministries and departments to track allocations and expenditures through IT-based systems. Develop a common protocol for climate change budget coding.
- For implementing social audits NGOs can be engaged by the Ministry of Forests and Environment to

conduct independent social audits of community-level climate adaptation projects.

- Enhancing the parliamentary oversight, parliamentary committee sessions by Agriculture, Cooperative and Natural Resources, and Finance can be held on climate budget allocation, expenditures and transparent fund utilization by the government.
- Use technology for transparency: Mobile apps and digital platforms can be developed for public access of information on climate projects, beneficiaries, expenditures to enhance accountability.

4.4 Climate finance policy and gaps

Nepal has developed key policies and strategies aligned with international climate finance mechanisms including the Climate Change Policy 2019, Climate Change Financing Framework 2017, National Framework on Local Adaptation Plans for Action, Action plan for the implementation of the Nationally Determined Contribution (NDC) and National Adaptation Plan. This enables Nepal to access global climate funds.

According to Nepal's Climate Change Policy, Nepal aims to mobilize financial resources for its climate actions through bilateral and multilateral international mechanisms including REDD+, Green Climate Fund, Global Environment Facility, Adaptation Fund, Climate Investment Fund and carbon trading (GoN, 2019a). At least 80 percent of the climate finance obtained via these sources will be ensured for implementation of programs at the local level by minimizing administrative expenses. Climate change budget codes will be modified and institutionalized across all sectoral plans at federal, provincial and local levels to earmark climate spending. Budget allocations targeted towards women, minorities, marginalized groups, climate vulnerable regions and communities will be appropriated. Finance from the private sector will be leveraged through instruments like green bonds, blended finance, results-based financing, carbon offsets and corporate social responsibility. The policies emphasize decentralizing climate funds to the local level, mainstreaming climate across government budgeting, ensuring gender and social inclusion and engaging the private sector for managing climate finances.

Some of the key policy gaps regarding climate finance management in Nepal are:

- Lack of overarching legislation on climate finance governance. Existing policies and frameworks are scattered across sectors.
- No comprehensive strategy for prioritizing and accessing different sources of global climate funds aligned with national needs and priorities.
- Lack of clear guidelines on public-private partnerships, carbon pricing, debt relief, insurance instruments for climate finance. Absence of carbon pricing, emission trading, payment for ecosystem services policy frameworks.
- Limited policies to incentivize private sector engagement in clean energy, green infrastructure, climate resilient agriculture. Lack of dedicated policies and incentives for promoting climate smart agriculture, clean energy start-ups, eco-tourism businesses.
- Gaps in mandated climate expenditure targets, budget tracking, reporting, auditing and parliamentary oversight protocols.
- Weak policies for gender-responsive approach, social inclusion, indigenous participation and human rights-based approach in climate actions.
- Policies connecting climate adaptation with disaster risk reduction, ecosystem conservation and poverty reduction are fragmented.
- Lack of provisions for managing loss and damage, climate induced displacement, and transboundary climate risks in the NAP.
- Gaps in standard requirements and protocols for monitoring, evaluation and verification of climate projects and reporting.
- Policies for transparent disclosure of climate funds allocation, disbursement and expenditures through online dashboards are inadequate.
- Gaps in guidelines for prioritizing vulnerable and marginalized groups in climate fund utilization.
- Insufficient legal provisions for oversight, auditing, and grievance redressal in climate fund management.

Nepal needs a comprehensive climate finance law and strengthen existing policies to address structural gaps for transparent, accountable, decentralized and resilient public climate financing. context-specific policies across sectors, instruments, beneficiaries, and governance mechanisms are needed in Nepal for managing increasing and complex climate financing efficiently, accountably and impactfully. In formulating policies for mobilizing climate finance, Nepal needs to strike a balance between various aspects like - mobilization effectiveness, economic efficiency, environmental integrity and equity (Bhandary et al., 2021).

- Mobilization effectiveness refers to the ability to scale up both public and private climate finance flows through appropriate policies and instruments.
- Economic efficiency means ensuring judicious use of limited resources by comparing costs and benefits across climate actions.
- Environmental integrity involves ensuring climate policies and investments help to reduce emissions and support adaptation effectively.
- Equity considerations are critical to ensure climate actions support the most vulnerable communities and do not exacerbate existing inequalities.

An optimal climate finance policy mix for Nepal would aim to simultaneously maximize mobilization and prudent use of funds, meet climate adaptation and mitigation goals, and provide equitable access and benefits to marginalized groups through good governance.

5. Conclusion and Recommendations

5.1 Conclusion

Nepal is highly vulnerable to climate change impacts like increased floods, droughts and landslides but has contributed negligible greenhouse gas emissions historically. This makes Nepal dependent on international climate adaptation finance due to its limited resources. The government has established dedicated climate change funds like the Climate Change Budget Code and Multi-Donor Trust Fund which allocate national budgets annually for adaptation and mitigation activities. However, institutional capacities for transparent, accountable and impactful governance of climate finance remain weak.

Major sources of climate finance for Nepal are multilateral development banks like the World Bank, Asian Development Bank, United Nations agencies and global climate funds like the Green Climate Fund. But the total climate finance received is small relative to Nepal's immense adaptation needs. Absorptive capacities are inadequate due to lack of viable project proposals, complex application procedures to access international funds and delays in procurement and expenditures. Climate expenditures tracking and auditing systems are weak with insufficient parliamentary oversight on how climate budgets are spent.

Nepal faces multifaceted risks in managing increasing climate finances effectively including governance risks like weak coordination across ministries, lack of transparency affecting oversight, and limited technical capabilities of institutions hampering fund absorption. Macroeconomic risks arise from over-reliance on external finance creating fiscal instability. Regulatory risks stem from policy gaps, inconsistencies and delays in approvals affecting fund utilization. Climate impacts exacerbating risks include recurring natural disasters dissipating limited climate funds towards post-disaster recovery and hydro-dependency risks from changing Himalayan hydrology. Lack of gender-responsive policies, social exclusion of remote communities, and inadequate capacities of local governments add to the challenges.

Concerned agencies should focus on enhancing transparency, building institutional and local capacities, implementing robust oversight mechanisms including public audits, managing debt sustainability, and diversifying sources of funds. Mainstreaming climate considerations across policies, planning and infrastructure investments is vital. Regional cooperation platforms, nature-based solutions like ecosystem restoration, and technologies like climate finance tracking systems could help build more resilient climate finance governance. Significant efforts are needed to translate Nepal's climate change policies into impactful actions on the ground through principled, accountable institutions and prudent investments supported by a blend of domestic and international climate financing.

5.2 Recommendations

Policy reforms: A mix of policy reforms, institutional strengthening, capacity building, knowledge sharing, and innovative public-private approaches can help Nepal overcome challenges and effectively manage growing climate finances. Following has been recommended to enhance the climate finance in Nepal:

Climate finance tracking: Nepal needs robust systems to track climate expenditures across government agencies and different sources of funds. Climate marker tools have been piloted by the government to tag climate budget allocations. Actions aimed at mobilizing, managing, and effectively tracking climate finance in Nepal entail enhancing the capacities of key entities such as the Ministry of Finance (MoF), National Planning Commission (NPC), and Ministry of Forests and Environment (MoFE) to meticulously monitor and report on the sources, allocation, and impacts of climate finance. Indicators for tracking the NAP progress is urgently needed.

Access to funds: Complex accreditation and proposal requirements have constrained Nepal's access to global climate funds. Targeted capacity building is needed to develop project pipelines and direct access abilities. Capacity-building Initiative for Transparency (CBIT), managed by the Global Environment Facility (GEF), stands as a potential funding source to bolster Monitoring, Reporting, and Review (MR&R) efforts specifically targeted at enhancing adaptation measures. The priority NAP actions and NDC intervention sector should be first considered for the development of the proposal to access funds.

Fund mobilization: Nepal requires a comprehensive and strategic approach that strategically allocates grant funds from diverse sources such as the Green Climate Fund (GCF), bilateral donors, Multilateral Development Banks (MDBs), and domestic budgets across national, provincial, and local levels. National Climate Change Policy of 2019 in Nepal emphasizes the significance of directing a substantial portion, specifically 80% of international climate resources, towards supporting programs and initiatives at the local level. Achieving this goal involves a systematic identification of both national and international resources dedicated to implementing adaptation actions. This also requires establishing a revised climate change budget code, identifying dedicated resources for adaptation actions, and directing a significant portion of international climate resources towards local-level programs.

Sub-national planning: Local adaptation plans and investment plans are being developed to channel climate finance to provinces, municipalities and communities. Technical capacities at these levels need strengthening.

Loss and damage: Nepal is advocating for separate financing for climate impacts that cannot be adapted to. This issue is now part of UNFCCC negotiations. Reliable assessment of loss and damage is required for the strong advocacy.

Carbon pricing and other financial options: Nepal can further explore market mechanisms like carbon trading, carbon tax, payment for ecosystem services to incentivize climate mitigation actions and generate funds. Debt relief tied to climate commitments is an emerging innovative financing option for Nepal to free up resources.

Leveraging private finance: Policies and risk mitigation instruments can catalyse greater commercial investments in renewable energy, green infrastructure, ecotourism etc.

Integrating actions: Nepal should strategically align its climate actions with commitments on Sustainable Development Goals, disaster risk reduction and nature conservation. The finance strategy for adaptation in Nepal must align with the GRID (Green, Resilient, and Inclusive Development) approach, ensuring that it integrates elements of sustainability, resilience-building, and inclusivity.

Capacity buildings: To effectively implement the Climate Resilient Planning and Budgeting Guidelines, sectoral ministries in Nepal would greatly benefit from comprehensive capacity-building efforts. These initiatives should focus on enhancing the understanding, skills, and capabilities of respective ministries in integrating climate resilience considerations into their planning and budgeting processes. By investing in capacity-building efforts across these areas, countries like Nepal can significantly improve their ability to manage climate finance efficiently. This not only ensures transparent and accountable utilization of funds but also strengthens the overall effectiveness and impact of climate change mitigation and adaptation initiatives.

Coordination and cooperation: South-south cooperation, experience sharing with countries like Bangladesh, India and Pakistan on climate fund management and investments can enhance Nepal's capabilities. Nepal can leverage climate funds in coordination with China and India for upstream-downstream river basin management, ecosystem conservation, coordination and cooperation.

References

ADB. (2023). *Climate Finance Landscape of Asia and the Pacific.* Asian Development Bank (ADB), Manila, Philippines. https://www.adb.org/terms-useeopenaccess.

ADPC. (2021). C*limate Change Financing and Planning in Nepal: Key Areas for Mainstreaming Climate Finance into the Planning and Budgeting Processes Policy Brief Policy, Planning and Finance.*

ADPC. (2023). *Accessing Climate Finance in Nepal: Issues and Options.* Asian Disaster Preparedness Centre, CARE for South Asia project, Bangkok, Thailand.

Bhandary, R. R., Gallagher, K. S., & Zhang, F. (2021). Climate finance policy in practice: a review of the evidence. *Climate Policy, 21(4),* 529–545. https://doi.org/10.1080/14693062.2020.1871313

Bocchiola, D., Brunetti, L., Soncini, A., Polinelli, F., & Gianinetto, M. (2019). Impact of climate change on agricultural productivity and food security in the Himalayas: A case study in Nepal. *Agricultural Systems, 171* (December 2018), 113–125. https://doi.org/10.1016/j.agsy.2019.01.008

Buchne, B., Naran, B., Padmanabhi, R., Stout, S., Strinati, C., Wignarajah, D., Miao, G., Connolly, J., & Marini, N. (2023). *Global landscape of climate finance* (Issue November). Climate Policy Initiative. https://doi.org/10.1201/9781003396949-21

CARE. (2021). *Climate Adaptation Finance: Fact or Fiction?* CARE International Denmark and Netherlands.

CPEIR. (2011). Nepal : *Climate Public Expenditure and Institutional Review (CPEIR).* Government of Nepal, National Planning Commission with support from UNDP/UNEP/CDDE in Kathmandu, Nepal.

Dahal, V., Shakya, N. M., & Bhattarai, R. (2016). Estimating the Impact of Climate Change on Water Availability in Bagmati Basin, Nepal. *Environmental Processes,* 3(1), 1–17. https://doi.org/10.1007/s40710-016-0127-5

Dhimal, M., Bhandari, D., Dhimal, M. L., Kafle, N., Pyakurel, P., Mahotra, N., Akhtar, S., Ismail, T., Dhiman, R. C., Groneberg, D. A., Shrestha, U. B., & Müller, R. (2021). Impact of Climate Change on Health and Well-Being of People in Hindu Kush Himalayan Region: A Narrative Review. *Frontiers in Physiology,* 12 (August). https://doi.org/10.3389/fphys.2021.651189

Dixit, A., Subedi, Y., Aryal, N., Wenju, R., & Shrestha, A. (2016). *Climate Finance Fund Flow From National to Sub-National Level in Nepal.* ISET-Nepal. Kathmandu, Nepal. http://isetnepal.org.np/uploaded/publications/research_products/Climate_Finance_ISET_Nepal.pdf

GoN. (2019a). *National Climate Change Policy,* 2076 (2019). Government of Nepal. Singhadurabar Kathmandu.

GoN. (2019b). *National Climate Change Policy.* Government of Nepal. Singhadurabar Kathmandu.

GoN. (2021). *National Adaptation Plan of Nepal 2021-2050.* Government of Nepal, Singhadurbar Kathmandu, Nepal.

GoN. (2023). *Nationally Determined Contribution (NDC) Implementation Plan.* Government of Nepal. Singhadurabar Kathmandu.

Government of Nepal. (2021). *Nepal's Long-term Strategy for Net-zero Emissions*. https://unfccc.int/sites/default/files/resource/NepalLTLEDS.pdf

IIED. (2014). *Climate Change Financing in Nepal.* The International Institute for Environment and Development (IIED), Kathmandu Nepal.

Kafle, K., Uprety, L., Shrestha, G., Pandey, V., & Mukherji, A. (2022). Are climate finance subsidies equitably distributed among farmers? Assessing socio-demographics of solar irrigation in Nepal. *Energy Research & Social Science,* 91 (July), 102756. https://doi.org/10.1016/j.erss.2022.102756

Kouwenberg, R., & Zheng, C. (2023). A Review of the Global Climate Finance Literature. *Sustainability,* 15(2), 1255. https://doi.org/10.3390/su15021255

Lamsal, P., Kumar, L., Aryal, A., & Atreya, K. (2018). Future climate and habitat distribution of Himalayan Musk Deer (Moschus chrysogaster). *Ecological Informatics,* 44(2017), 101–108. https://doi.org/10.1016/j.ecoinf.2018.02.004

Legislative Parliament. (2017). *Climate finance. Handbook for the Federal Parliament, Provincial and Local Assemblies.* Finance Committee and Environment Protection Committee, Legislative Parliament with support from UNDP.

Long, S., Lucey, B. M., Kumar, S., Zhang, D., & Zhang, Z. (2022). Climate finance: What we know and what we should know? *SSRN Electronic Journal, January.* https://doi.org/10.2139/ssrn.4262960

Mahat, T. J., Bláha, L., Uprety, B., & Bittner, M. (2019). Climate finance and green growth: reconsidering climate-related institutions, investments, and priorities in Nepal. *Environmental Sciences Europe*, 31(1), 2–13. https://doi.org/10.1186/s12302-019-0222-0

Mandal, C. K. (2021). Donors over-report climate finance , study shows. *The Kathmandu Post.*

MoF. (2017). *Climate Change Financing Framework: A roadmap to systematically strengthen climate change mainstreaming into planning and budgeting.* Ministry of Finance, Government of Nepal, Kathmandu, Nepal.

MoF. (2022). *Economic Survey 2079/80.* Ministry of Finance, Government of Nepal, Kathmandu, Nepal.

MoFALD. (2018). *Synopsis of district climate public expenditure and institutional review (dCPEIR).* Ministry of Federal Affairs and Local Development. Singhadurbar, Kathmandu, Nepal.

MoFE/ GoN. (2021). *Nepal's Third National Communication to the UNFCCC.* Ministry of Forest and Environment. Government of Nepal.

MoFE. (2020). *Second Nationally Determined Contribution (NDC).* Ministry of Forest and Environment, Government of Nepal.

MoFE. (2021a). *Assessment of Climate Financing Allocation: Unpacking Eighty Per Cent Allocation to the Local Level.* Ministry of Forest and Environment, Government of Nepal.

MoFE. (2021b). *Vulnerability and Risk Assessment and Identifying Adaptation Options.* Ministry of Forests and Environment. https://reliefweb.int/sites/reliefweb.int/files/resources/Vulnerability_Report_1622809902_compressed.pdf

Murphy, D., & Parry, J. (2023). *Guiding Principles for the Preparation of Financing Strategies for Climate Change Adaptation in Developing Countries* (Issue August). International Institute for Sustainable Development, Manitoba, Canada.

NPC/UNDP/UNEP/CDDE. (2011). *The future for climate finance in Nepal.* Government of Nepal, National Planning Commission with support from UNDP/UNEP/CDDE.

NPC. (2012). *Climate Change Budget Code. Documenting the National Process of Arriving at Multi-sectoral Consensus. Criteria and Method.* National Planning Commission, Government of Nepal, Kathmandu Nepal.

NPC. (2018). *Needs Assessment, Costing and Financing Strategy for Sustainable Development Goals.* National Planning Commission , Government of Nepal Kathmandu Nepal.

OPM. (2022). *Capitalising Green Finance for Nepal* (Issue October). Oxford Policy Management Limited, Oxford OX1 3HJ United Kingdom.

OXFAM. (2022). *Climate finance in Asia.* Oxfam International, Oxford, UK. https://doi.org/10.21201/2022.9837

PRC. (2021). *Climate finance options for Nepal.* Prakriti Resources Centre (PRC), Kathmandu, Nepal.

Rai, S., Chhetri, R. P., & Dhital, B. (2020). *Climate adaptation finance study report Nepal.* CARE Nepal. Kathmandu, Nepal.

Shrestha, U. B., Shrestha, A. M., Aryal, S., Shrestha, S., Gautam, M. S., & Ojha, H. (2019). Climate change in Nepal: a comprehensive analysis of instrumental data and people's perceptions. *Climatic Change,* 154(3–4), 315–334. https://doi.org/10.1007/s10584-019-02418-5

TI. (2018). *Corruption Free Climate Finance- Strengthening multilateral funds.* Transparency International. Berlin, Germany.

UNFCCC. (2020). *Reference Manual for the Enhanced Transparency Framework under the Paris Agreement.* United Nations Framework Convention on Climate Change.

WB, & ADB. (2021). *Climate Risk Country Profile: Nepal.* The World Bank Group and the Asian Development Bank. www.worldbank.org

Annexes

Annex 1. Summary of climate change management projects financed through different channels

Channel	Total Finance (million USD)	Co-financing	No. of Projects	Mitigation	Adaptation	Combined
GCF Projects	87.832 268	41.37	3	1		2
GCF Readiness	5.3		4		1	3
GEF	4.651175	33.5	2	1		1
LDCF	36.702985	139.45	7	1	4	2
AF	9.52716		1		1	
CIF	150.79	145.35	10	4	2	4
FCPF	50.52		3	3		
GCCA+	24.27		2		1	1
GRP			1			1
GGGI	2.64				1	
ICF	31.47		2	1	1	
IKI	35.2		26	10	9	7
NCF	2.7		6	2	1	3
IFAD- ASHA	15		1		1	
UK Aid-NCCSP2	8.9		1		1	
USAID Hariyo Ban I and II	57		2		2	
USAID-ICCAProject	2		1		1	
NRREP-Nepal	150.1		1			1
UKaid- NREP	22.7		1	1		
Total	**697.30**	**359.67**	**74**	**23**	**26**	**25**

Annex 2a. Criteria for climate change budget coding in Nepal

Source: NPC. (2012). *Climate Change Budget Code Nepal- Criteria and Method.* National Planning Commission, Government of Nepal Kathmandu Nepal.

SN	Defining Criteria
1	Sustainable management of natural resource and greenery promotion.
2	Land use planning and climate resilient infrastructures.
3	Prevention and control of climate change-induced health hazards.
4	Prevention and control of climate change-induced hazards to endangered species and biodiversity.
5	Management of landfill sites and sewage treatment for GHG emissions reduction.
6	Sustainable use of water resource for energy, fishery, irrigation and safe drinking water.
7	Plan/programmes supporting food safety and security.
8	Promotion of renewable and alternative energy; technology development for emission reduction and low carbon energy use.
9	Preparedness for climate induced disaster risk reduction.
10	Information generation, education, communication, research and development, and creation of data base.
11	Preparation of policy, legislation and plan of action related to climate change.

Annex 2 b. Guidelines for climate change budget coding in Nepal (NPC, 2012)

Programme Budget Allocated to Climate Change Related Activities	**Relevance of the Programme to Climate Change**	**Code to be used in the Budget Sheet**
If more than 60 percent of the programme budget is allocated to climate change activities.	Highly relevant	1
If 20 to 60 percent of the programme budget is allocated to climate change activities.	Relevant	2
If less than 20 percent of the programme budget is allocated to climate change activities, or if the programme is not related to climate change activities.	Neutral	3

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P.O. Box: 11486
Ghar No. 57/62, Chhakkubakku Marga, New Baneshwor
Kathmandu, Nepal
Phone: 977-1-4575062, 4575262
Fax: +977-1-4575112
Toll-free tel. no.: 1660 01 22 211
Email: trans@tinepal.org
Website: www.tinepal.org
/tinepal

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