



त्रिभुवन विश्वविद्यालय

**Tribhuvan University**

इञ्जिनियरिङ्ग अध्ययन संस्थान

**Institute of Engineering**

**Bulletin**

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## One-Day Workshop on Nature-based Solutions (NbS)

The Centre for Disaster Studies (CDS), Institute of Engineering (IoE), Tribhuvan University, in collaboration with the Government of Bagmati Province, Ministry of Physical Infrastructure Development under the Transport Infrastructure Directorate (TID), Hetauda, successfully conducted a One-Day Workshop titled “Nature-based solutions for roadside slope stabilization for Bagmati Province: Development of Guideline for Design and Implementation.” The program was held on Falgun 01, 2082 at ALICE Conference, Bakhundol Marg, Lalitpur.

The workshop was conducted under the leadership of Dr. Basanta Raj Adhikari (Director, CDS). The technical presentation and guideline draft were presented by the team leader Dr. Bhim Kumar Dahal along with the project team.

The program was chaired with high-level participation from government and academic leadership. The Chief Guest of the workshop was Honorable Minister Dr. Dineshchandra Devkota. Ishowar Chandra Marahatta, Province Secretary and Sushil Bahadur Bajracharya (Dean) attended as a Special Guest. And other distinguished guests included Dr. Suraj Lamichanne (Assistant Dean) and Baburam Dawadi (Assistant Dean). The event also brought together engineers and officials from various governmental offices, senior technical staff (including SDE/IDE level), professors, and subject experts from multiple disciplines.

The main objective of the workshop was to collect expert feedback for developing a practical and field-oriented guideline to manage roadside slope instability in Bagmati Province (landslides, erosion, and shallow failures) using Nature-based Solutions (NbS) integrated with bio-engineering and small-scale civil works. The sessions focused on making the draft guideline more implementable at field level, identifying design and implementation gaps, and strengthening the capacity of provincial engineers for effective application in real projects.

Key discussion areas included the concept of NbS and its relevance to provincial road contexts, site assessment approaches (hazard mapping, slope condition and drainage issues), design considerations (integration of surface

and subsurface drainage, vegetation selection and planting methods), and implementation challenges such as maintenance, monitoring, and institutional coordination. Participants particularly emphasized standardizing the combination of drainage management and bio-engineering measures to address monsoon-driven slope failures.

This collaboration between CDS–IoE/TU and Bagmati Province–TID is expected to support the institutionalization of the NbS guideline at provincial level, improve engineers’ efficiency through standardized decision-making tools, and contribute to long-term resilient road infrastructure development. The recommendations collected during the workshop will be incorporated into the guideline draft, followed by expert review and finalization, with a plan to move towards phased implementation in upcoming provincial projects



One-Day Workshop on Nature-based Solutions

## MSc २०८२/०८३ प्रवेश परीक्षा तथा केन्द्रीय भर्ना कार्यक्रम

इन्जिनियरिङ अध्ययन संस्थान, प्रवेश परीक्षा बोर्डद्वारा शैक्षिक वर्ष २०८२/०८३ का लागि स्नातकोत्तर (M.Sc.) तहमा भर्नाका लागि २०८२ फाल्गुन महिनामा प्रवेश परीक्षा सञ्चालन गरिएको थियो। यसका लागि इन्जिनियरिङ अध्ययन संस्थान अन्तर्गतका चार क्याम्पसहरू पुल्चोक क्याम्पसमा १५७९ आवेदक मध्ये १४६२, थापाथली क्याम्पसमा ९७ आवेदक मध्ये ८९, पश्चिमाञ्चल क्याम्पसमा (पोखरा) १७२ आवेदक मध्ये १५४ र पूर्वाञ्चल क्याम्पसमा (धरान) ६८ आवेदक मध्ये ६२ प्रवेश परीक्षा मा उपस्थित थिए। प्रवेश परीक्षामा कुल १९१६ आवेदक मध्ये १७६८ विद्यार्थी उपस्थित रहेकोमा १४७६ जना उत्तीर्ण भएका छन् र हाल इन्जिनियरिङ अध्ययन संस्थान अन्तर्गतका क्याम्पसहरूका लागि केन्द्रीय भर्ना प्रणाली पहिलो पटक कार्यान्वयनमा ल्याइएको छ।

## Training on Energy Systems Modelling and Scenario Analysis using LEAP – 2025

This intensive training by CES, IOE brought together students, researchers, and professionals eager to build practical skills in understanding national energy systems, modelling sectoral energy demands,

and developing long-term energy scenarios using the LEAP (Long-range Energy Alternatives Planning) modelling tool. With a curriculum designed around hands-on learning, the program ensured participants developed both foundational and advanced modelling competencies.



### Training on Energy Systems Modelling and Scenario Analysis

The training was structured to provide a strong conceptual grounding in energy security, energy equity, and environmental sustainability, collectively referred to as the 3E(H) framework, followed by practical exercises in model building and scenario analysis. Over the five days, participants engaged in guided instructions, hands-on modelling sessions, independent exercises, and interactive discussions aligned with real-world energy planning challenges.

Key technical components included demand-side modelling for the residential and transport sectors, scenario development, model calibration, and results interpretation for policy analysis. Participants learned to evaluate key modelling assumptions, structure energy demand and supply

modules, and analyze system-wide implications of different policy pathways within the LEAP framework.

Throughout the program, the resource persons provided expert guidance and mentorship. CES expresses its sincere appreciation to the dedicated facilitators:

- Assoc. Prof. Dr. Shree Raj Shakya
- Asst. Prof. Dr. Anita Prajapati
- Mr. Utsav Shree Rajbhandari

Their contributions ensured that participants gained a comprehensive understanding of modelling methodologies, analytical techniques, and their application in supporting evidence-based energy planning in Nepal.

The training concluded with a discussion on results interpretation, transformation and generation modules, and the policy relevance of modelling insights. Participants who actively engaged throughout the sessions strengthened their confidence in using LEAP for academic research, institutional energy assessments, and policy-oriented scenario development.

CES extends its heartfelt gratitude to all participants for their enthusiasm, collaboration, and commitment during the program. The successful completion of this training represents an important step toward expanding Nepal's technical capacity in energy systems modelling and empowering the next generation of energy planners and researchers to contribute to the country's sustainable, low-carbon development pathways.

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## **Professional Training on Detailed Feasibility Study (DFS) for Solar PV Systems-2025**

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The Center for Energy Studies (CES), Institute of Engineering (IOE), Tribhuvan University, has successfully concluded the Professional Training on Detailed Feasibility Study (DFS) for Solar PV Systems, conducted from 17 to 30 November 2025 at CES, Pulchowk, Lalitpur. Organized with the support of the Transforming Energy Access Learning Partnership (TEA-LP) and UKaid, the program was part of a broader initiative to strengthen Nepal's technical capacity in renewable energy planning and development.

This intensive 14-day training brought together engineers, STEM graduates, and professionals from the energy sector, all eager to build practical skills in Solar PV project development. The course was structured around three key application areas: Solar Rooftop (SRT), Solar Mini-Grid (SMG), and Solar Water Pumping (SWP), ensuring participants gained a well-rounded understanding of Solar PV systems across different contexts and scales. The

training blended theory with hands on learning, giving participants opportunities to engage in field assessments, system design exercises, case study discussions, and simulation-based analyses. Throughout the program, participants learned to evaluate site conditions, assess solar resource potential, design system components, carry out economic and financial analyses, and address environmental and social considerations. They also developed a strong understanding of regulatory requirements and gained confidence in preparing complete DFS reports using standard formats and tools. Key technical topics included solar radiation assessment, system sizing, mounting structure design, tariff calculation, risk analysis, and O&M planning. Participants also worked with widely used design tools such as PVsyst, HOMER Pro, and Excel-based models, allowing them to translate theoretical concepts into real-world system configurations. At the end of the training, participants who achieved at least 90% attendance and demonstrated satisfactory performance in both theoretical and practical evaluations received the Certificate of Competence in Detailed Feasibility Study of Solar PV Systems, awarded by CES. CES expresses its heartfelt appreciation to the dedicated facilitators, the TEA-LP and UKaid teams, and all participants for their active engagement and enthusiasm throughout the program. The successful completion of this training represents another meaningful step toward expanding Nepal's skilled workforce in the renewable energy sector and supporting the country's ongoing transition toward sustainable, clean energy solutions.



Training on Feasibility Study for Solar PV

## नियुक्ति/सरुवा/बढुवा/राजिनामा/अवकाश

त्रि.वि. इ.अ.सं. अन्तर्गतका विभिन्न निकायहरूमा त्रि.वि. तथा इ.अ.सं. को निर्णय बमोजिम २०८२ माघ-फागुन महिनामा नियुक्ति/सरुवा/बढुवा/अवकाश/राजिनामा हुनु भएका शिक्षक/कर्मचारीहरूको विवरणः

| सि.न. | विवरण   | पत्रको मिति   | कैफियत  |
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| १     | त्रि.वि.इ.अ.सं.<br>परीक्षा नियन्त्रण<br>महाशाखाको उप-<br>प्रमुख पदमा<br>नियुक्ति गरिएको | उप-प्राध्यापक सुदीप<br>लम्साल   | २०८२।०९।२९<br>त्रि.वि.इ.अ.स.डीन कार्यलयको<br>च.नं.११७७।२०८२।२०८३को<br>पत्रानुसार।<br>२०८२।१०।०१ गते देखि लागु हुने गरी<br>२ वर्षको लागि नियुक्ति गरिएको ।   |
| २     | उप-निर्देशक पदमा<br>नियुक्ति  | उप-प्राध्यापक सुनिल<br>रखाल   | २०८२।१०।०२<br>इ.अ.स.डी.का.डीन कार्यलयको<br>च.नं.१२०३।२०८२।२०८३ को<br>पत्रानुसार।<br>त्रि.वि.इ.अ.स. जलस्रोत अध्ययन केन्द्र<br>(CWRS) को उप- निर्देशक पदमा मिति<br>२०८२।१०।०२ देखि लागू हुने गरी<br>नियुक्त गरिएको ।    |
| ३     | निर्देशक पदमा<br>नियुक्ति   | उप-प्राध्यापक राजेन्द्र<br>बहादुर क्षेत्री  | २०८२।१०।२५<br>इ.अ.स.डी.का.च.नं.१३७६।२०८२।२०८<br>३ को पत्रानुसार।<br>त्रि.वि.इ.अ.स. पूर्वाधार विकास अध्ययन केन्द्र<br>(CIDS) को निर्देशक पदमा मिति<br>२०८२।१०।२५ देखि अर्को व्यवस्था<br>नहुन्जेल सम्म नियुक्त गरिएको । |
| ४     | मुल्याङ्कन समिति<br>गठन गरिएको  | श्री प्रविण ढकाल,<br>नेटवर्क इन्जिनियर,,<br>इ.अ.सं.,पुल्चोक<br>क्याम्पस ,पुल्चोक<br>- संयोजक<br>श्री बामदेव भण्डारी,<br>प्रविधिक, इ.अ.सं<br>परीक्षा नियन्त्रण<br>महाशाखा,<br>चाकुपाट,ललितपुर<br>- सदस्य | २०८२।१०।२७<br>इ.अ.स.डी.का.च.नं.१३८१।२०८२।२०८<br>३ को पत्रानुसार।  |

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|   |                                  | श्री सुभद्रा पन्त,<br>मु.का.स., डीनको<br>कार्यालय,<br>त्रि.वि.इ.अ.स.<br>पुल्चोक, ललितपुर ।<br>- सदस्य सचिव   |            |  |
| ५ | खरिद एकाई<br>समिति गठन<br>गरिएको | श्री सञ्जय न्यौपाने,<br>उप प्रमुख, इ.अ.सं<br>परीक्षा नियन्त्रण<br>महाशाखा चाकुपाट,<br>ललितपुर<br>- संयोजक<br>इ.अ.स. डीनको<br>कार्यालय प्रशासन<br>प्रमुख,<br>- सदस्य<br>श्री बामदेव भण्डारी,<br>प्रविधिक, इ.अ.सं<br>परीक्षा नियन्त्रण<br>महाशाखा, चाकुपाट,<br>ललितपुर<br>- सदस्य<br>इ.अ.स. डीनको<br>कार्यालय आर्थिक<br>प्रशासन प्रमुख<br>- सदस्य<br>श्री ज्ञानेन्द्र श्रेष्ठ,<br>शाखा अधिकृत,<br>इ.अ.सं परीक्षा<br>नियन्त्रण महाशाखा,<br>चाकुपाट, ललितपुर<br>- सदस्य सचिव | २०८२।१०।२५ | इ.अ.स.डी.का.च.नं.१३८३।२०८२।२०८<br>३ को पत्रानुसार। |

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| ६  | CMTL Lab Incharge पदमा पुनःनियुक्त                   | उप प्राध्यापक अरुण पौडेल   | २०८२।०९।०९ | इ.अ.स.पुल्चोक क्याम्पसको च.नं. ११४६।२०८२।२०८३ को पत्रानुसार। इ.अ.स.अन्तर्गत सिभिल इन्जिनियरिङ्ग विभागको केन्द्रिय निर्माण बस्तु परिक्षणशालाको Lab Incharge पदमा मिति २०८२।०४।१८ देखि लागू हुने गरि पुनःनियुक्त गरिएको । |
| ७  | थप जिम्मेवारी दिएको                                  | इ.अ.सं. का, सहायक डीन (प्रशासन) डा. बाबुराम दवाडी                                  | २०८२।०९।१३ | त्रि.वि.इ.अ.स.डीन कार्यालयको च.नं.१०७२।२०८२।२०८३को पत्रानुसार। मिति २०८२।०९।१३ गते देखि लागू हुने गरि अर्को व्यवस्था नभएसम्मको लागि इ.अ.सं. परीक्षा नियन्त्रण महाशाखाको परीक्षा प्रमुखको थप जिम्मेवारी दिएको ।          |
| ८  | प्रवेश परीक्षा बोर्ड-०८२को अध्यक्षमा नियुक्ति गरिएको | इ.अ.सं.का सहायक डीन(योजना), डा. सुरज लामिछाने                                      | २०८२।०९।१६ | त्रि.वि.इ.अ.स.डीन कार्यालयको च.नं.११००।२०८२।२०८३को पत्रानुसार। मिति २०८२।०९।१६ गते निर्णयानुसार प्रवेश परीक्षा बोर्ड-०८२को अध्यक्षमा नियुक्ति गरिएको ।  |
| ९  | थप जिम्मेवारी दिएको                                  | त्रि.वि.इ.अ.सं. पुल्चोक क्याम्पस पुल्चोकको,उप प्रशासक श्री सुशीला प्रधान सुल्प्याल | २०८२।०९।१६ | इ.अ.स.पुल्चोक क्याम्पसको च.नं. १२८३।२०८२।२०८३ को पत्रानुसार। मिति २०८२।०९।१६ गते देखि लागू हुने गरि सामान्य प्रशासन शाखा, क्याम्पस सचिवालय,कर्मचारी प्रशासन साथै प्रशासन प्रमुखको जिम्मेवारी दिएको ।                    |
| १० | क्याम्पस प्रमुख पदमा नियुक्ति गरिएको                 | डा. गोपाल प्रसाद घिमिरे  | २०८२।०९।३० | त्रि.वि.उपकुलपतिको कार्यालयको च.नं.६३८०।२०८२।०८३ को पत्रानुसार। मिति २०८२।१०।०२ गते देखि लागू हुने गरी पश्चिमाञ्चल क्याम्पसको क्याम्पस प्रमुख पदमा नियुक्ति गरिएको ।  |

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| ११ | निर्देशक पदमा नियुक्ति           | प्रा.डा. महेश लुईटेल  | २०८२।१०।०२ | इ.अ.स.डी.का.च.नं.११९९।२०८२।०८३ को पत्रानुसार।<br>त्रि.वि.इ.अ.स. व्यवहारिक अनुसन्धान तथा बिकास केन्द्र (CARD)को निर्देशक पदमा मिति २०८२।१०।०२ देखि लागू हुने गरी नियुक्त गरिएको ।                       |
| १२ | उप-निर्देशक पदमा नियुक्ति        | डा. बसन्त जोशी  | २०८२।१०।०२ | इ.अ.स.डी.का.च.नं.१२०२।२०८२।०८३ को पत्रानुसार।<br>त्रि.वि.इ.अ.स. व्यवहारिक अनुसन्धान तथा बिकास केन्द्र (CARD)को उप- निर्देशक पदमा मिति २०८२।१०।०३ देखि लागू हुने गरी पुनः २बर्षको लागि नियुक्त गरिएको । |
| १३ | केन्द्रिय भर्ना समिति गठन गरिएको | डा. सुरज लामिछाने,<br>सहायक डीन<br>(योजना), इ.अ.सं.<br>डीन कार्यालय,<br><br>- संयोजक<br><br>डा. खेम ज्ञवाली,<br>क्याम्पस प्रमुख,<br>इ.अ.सं. थापाथली<br>क्याम्पस,<br><br>- सदस्य<br><br>डा. सञ्जीव प्रसाद<br>पाण्डे, निर्देशक,<br>सूचना तथा सञ्चार<br>प्रविधि केन्द्र,<br><br>- सदस्य<br><br>श्री शरद कुमार<br>घिमिरे, इ.अ.सं.<br>पुल्चोक क्याम्पस,<br><br>- सदस्य | २०८२।११।१५ | इ.अ.स.डी.का.च.नं.१४६९।२०८२।०८३ को पत्रानुसार।  |

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|    |   | <p>श्री योगेन्द्र प्रसाद दाहाल, इ.अ.सं. डीन कार्यालय, पुलचोक</p> <p>- सदस्य सचिव</p> <p>सलाहकार :</p> <p>प्रा. डा. विनोद कुमार भट्टराई, सहायक डीन (शैक्षिक), इ.अ.सं. डीन कार्यालय, पुलचोक ।</p>  |            |  |
| १४ | केन्द्रिय भर्ना प्राविधिक उप-समिति गठन गरिएको | <p>डा. सञ्जीव प्रसाद पाण्डे, निर्देशक, सूचना तथा सञ्चार प्रविधि केन्द्र,</p> <p>- संयोजक</p> <p>डा. अमन शाक्य, उप-प्राध्यापक, इ.अ.सं. पुलचोक क्याम्पस,</p> <p>- सदस्य</p> <p>श्री विभा स्थापित, निर्देशक, सूचना प्रविधि केन्द्र, पुलचोक क्याम्पस,</p> <p>- सदस्य</p> <p>श्री दयासागर बराल, उप-प्राध्यापक, इ.अ.सं. पुलचोक क्याम्पस,</p> | २०८२।११।१५ | इ.अ.स.डी.का.च.नं.१४७०।२०८२।२०८३ को पत्रानुसार। |

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|  |  | <p>- सदस्य</p> <p>श्री रञ्जु शिवाकोटी,<br/>उप—प्राध्यापक,<br/>इ.अ.सं. पुलचोक<br/>क्याम्पस,</p> <p>- सदस्य</p> <p>श्री दीपक गिरी,<br/>मु.प्र.स.इ.अ.सं.<br/>पश्चिमाञ्चल<br/>क्याम्पस, पोखरा</p> <p>- सदस्य</p> <p>श्री विनायक भट्ट,<br/>उप—प्राध्यापक,<br/>इ.अ.सं. पश्चिमाञ्चल<br/>क्याम्पस, धरान</p> <p>- सदस्य</p> <p>श्री सुवर्ण लिङ्गदेन,<br/>इ.अ.सं. थापाथली<br/>क्याम्पस, थापाथली</p> <p>- सदस्य</p> <p>श्री नवीन दा श्रेष्ठ,<br/>प्राविधिक अधिकृत,<br/>इ.अ.सं. डिन<br/>कार्यालय,</p> <p>सदस्य सचिव</p> |  |  |
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| विद्यावारिधी |                 |  |   |  |
|--------------|-----------------|--|---|--|
| क्र.सं.      | शोधार्थीको नाम  | शोधको शीर्षक   | उपाधी   | पूरा भएको मिति                         |
| १            | Anand Gachhadar | Towards Massive Internet of Things (M-IoT) Over 5G Multitier Heterogenous Network for Interference Cancellation and Power Optimization | Doctor of Philosophy in Electronics and Communication Engineering | <u>२०८२/१०/२३</u><br>February 06, 2026 |
| २            | Binod Sapkota   | Multi-controller placement optimization with load balancing in software-defined networking   | Doctor of Philosophy in Computer Engineering                      | <u>२०८२/११/०५</u><br>February 17, 2026 |

| List of Scientific Contributions by IOE Faculties |                   |                 |   |
|---|-------------------|-----------------|---|
| SN  | Faculty Name      | Campus/ Office  | Publication   |
| 1.  | Dr Babu R. Dawadi | Pulchowk Campus | <b>Babu R. Dawadi, Chitran Pokharel* &amp; Roshani Ghimire , (2026). Towards Robust Digital Infrastructure for Sustainable Digital Economy Development of Nepal. <a href="#">Digital Economy and Sustainable Development</a>, Springer Nature. <a href="https://doi.org/10.1007/s44265-026-00077-w">https://doi.org/10.1007/s44265-026-00077-w</a>.</b> |

| बुलेटिन प्रकाशन परिवार  |             |  |                   |
|---|-------------|--|-------------------|
| प्रा. डा. सुशील बहादुर बज्राचार्य   | — संरक्षक   | उप-प्रा. डा. बाबुराम दवाडी             | — संयोजक          |
| प्रा. डा. बिनोद कुमार भट्टराई   | — सल्लाहकार | प्रशासक प्रमुख योगेन्द्र प्रसाद दाहाल. | — सदस्य           |
| सह-प्रा. डा. सुरज लामिछाने  | — सल्लाहकार | आर्थिक प्रमुख दिनेशमान जोशी.           | — सदस्य           |
|   |             | उप-प्रा. प्रविण ढकाल                   | — सदस्य (सम्पादक) |
|   |             | रिली प्रधान                            | — सदस्य (सचिव)    |
| <b>इ. अ. सं. का सवै क्याम्पस, सम्बन्धन प्राप्त कलेज, अनुशान्धान/परामर्श केन्द्र, शाखा/महाशाखाहरूलाई अनुरोध!</b> |             |  |                   |

इ. अ. सं. का सवै क्याम्पस, सम्बन्धनप्राप्त कलेजहरू, सम्बन्धित विभागहरू, अनुसन्धान/परामर्शसेवा केन्द्रहरू, शाखा/महाशाखाहरू आदिले संस्था र सार्वजनिक सरोकारसँग सम्बन्धित गतिविधिहरू प्रत्येक महिनाको २६ गते भित्र इ. अ. सं. बुलेटिन प्रकाशन समितिको इ-मेल [bulletin@ioe.edu.np](mailto:bulletin@ioe.edu.np) मा पठाई सहयोग गर्नुहुन बुलेटिन प्रकाशन समिति हार्दिक अनुरोध गर्दछ। साथै बुलेटिन प्रकाशन सम्बन्धमा कुनै Feedback/Comments र सुझावहरू भएमा सो समेत पठाउन अनुरोध गरिन्छ।

**इ. अ. सं. बुलेटिन प्रकाशन समिति**