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NextGenerationEU

A Report on DeliverablesFor ESD Pilot, PBL Pilot Experience and Sustainability Commitment of B+NESDG (Bhutan+Nepal Higher Education for accomplishing the Sustainable Development Goals) at Nepal Engineering College (nec)

B+NeSDG Team (nec)

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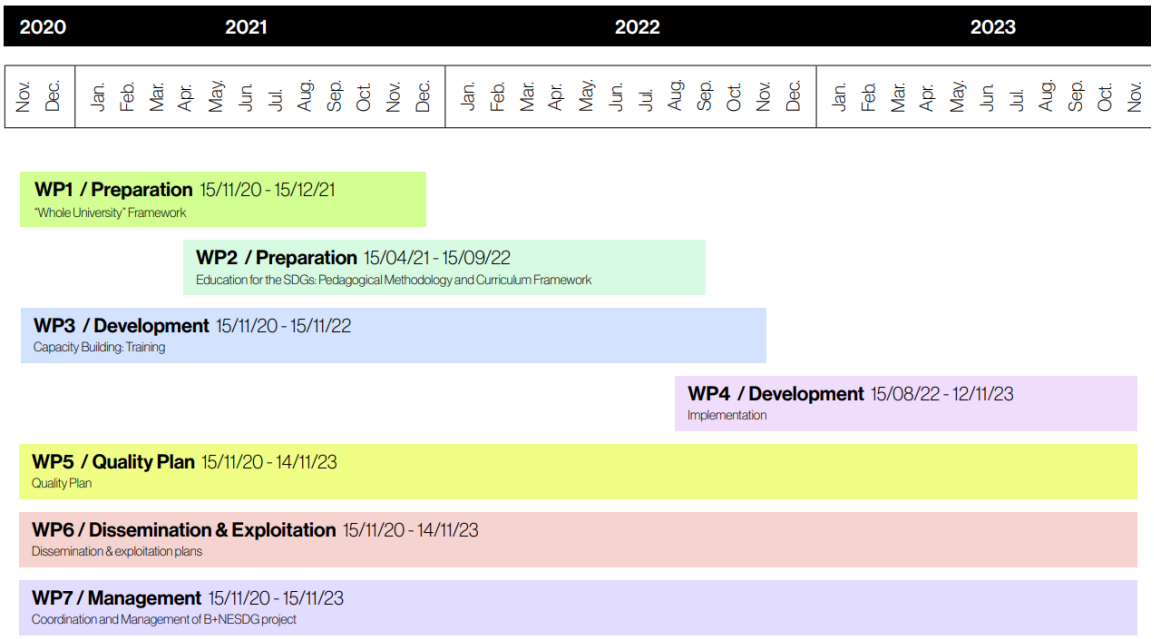
1. Table of Contents

1. Background

As part of the Erasmus+ Capacity Building project "Bhutan Nepal Higher Education for Sustainable Development Goals (B+NESDG)," Nepal Engineering College (***nec***) collaborates with ten other prestigious universities from Spain, Latvia, Greece, Nepal, and Bhutan, and is one of the partner institutions. This project, which is slated to continue until November 2023 and is co-funded by the European Union's Erasmus+ Programme under KA2 (2019) Capacity Building in Higher Education, aims to improve the quality of HEIs by using a holistic capacity-building approach. The principal aim of this project is to elevate these establishments to global standards and foster constructive relationships with post-secondary educational institutions in Nepal and Bhutan. Utilizing the project's beneficial results to raise living standards in Nepal and Bhutan is an additional goal.



Nepal Engineering College is actively involved in the execution of Work Package 4, which comprised a number of critical responsibilities for our mission. The aforementioned responsibilities encompassed the implementation of the Problem-Based Learning (PBL) pilot initiative, the completion of the Education for Sustainable Development (ESD) pilot task, and the assurance of our stakeholders' dedication to the project's sustainability.

During the ESD pilot, our objective was to accredit course modules that incorporated the fundamental principles of Sustainable Development (SD) and the Sustainable Development Goals (SDG) into the curriculum by assisting Pokhara University. In order to advance our mission, we initiated a PBL pilot initiative at the local level concurrently that included direct student participation.

The prerequisite for previously identified stakeholders and any further ones to affix their signatures on a letter of commitment served to emphasise our dedication to sustainability and ensure the continued success and viability of the B+NESDG project at NEC.

Detailed information regarding the deliverables and outcomes of the PBL assignment, ESD initiatives, and the commitments of our esteemed stakeholders can be found in this report/template.

2. Student Selection Report for PBL Pilot

This section of the report presents the process of selection of students as a part of project B+NESDEG task.

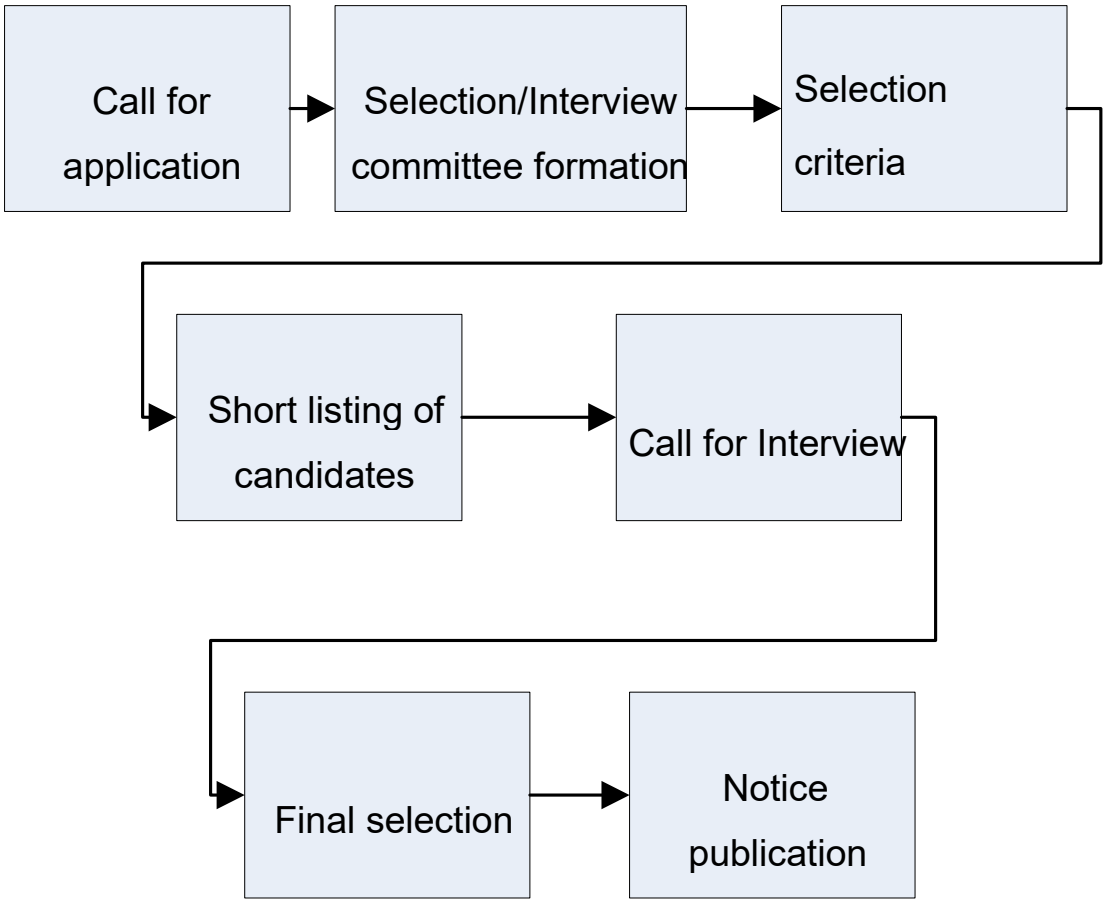
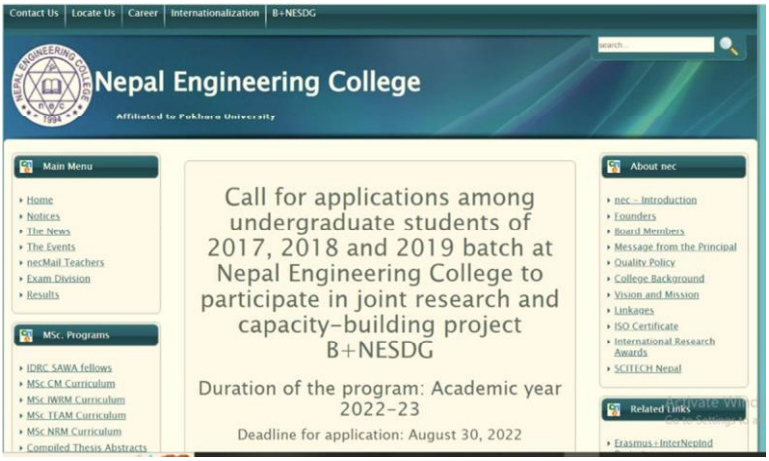


Fig. Flow chart of student selection process

2.1. Call for application



August 20, 2022 : **Call for applications among undergraduate students of 2017, 2018 and 2019 batch at Nepal Engineering College to participate in joint research and capacity-building project**

B+NESDG

Duration of the program: Academic year 2022-23

Deadline for application: August 30, 2022

"**Bhutan+Nepal Higher Education for accomplishing the Sustainable Development Goals (B+NESDG**)" is a capacity development project financed by the **Erasmus+ program** of the European Union which involves institution from the country Nepal, Spain, Greece, Bhutan and Latvia. Nepal Engineering College is one of the partner institutions from Nepal. The project aims to contribute to increase the quality of tertiary education through a capacity building holistic approach on Sustainable Development (SD) to facilitate the accomplishment of relevant Sustainable Development Goals (SDGs) in Bhutan and Nepal, modernizing partnership HEIs to be more internationally recognized and competitive.

There is a provision of the involvement of students which includes capacity building by giving training (both onsite and online) as well as involving the students in guided research with international students. Each group of students will be involved to provide the solution to the local and global challenges aligned with the SDGs. Eight (8) students

from Nepal Engineering College, preferably interdisciplinary courses and gender mixed (four males and four females), shall be short listed.

Based on the performance in the projects some students shall be selected to attend the first B+NESDG Summit to present the most remarkable contributions to the achievement of SDGs in Nepal and Bhutan (Education for Sustainable Development Implementation) that will be organized in Open Hellenic University, Athens Greece (Europe). The project will take care of all the expenses occurred (traveling and logistic) for this visit as per the project rule.

How to apply:

The application is open for all undergraduate students of batch 2017, 2018 and 2019 enrolled in Nepal Engineering College in any discipline. Interested students are required to fill the online form by clicking the following link: **https://forms.gle/bivn3nFJD8oAfNg28 or Scan following QR Code**

Short listed students shall be called for the interview.

Minimum Criteria:

The selection of students will be based on academic credential/Merit. Students having experience of research work with SDGs theme will be given additional priority.

Application Deadline:

Deadline to fill the online application is August 30, 2022.

For further details, contact

Associate Professor Bibhuti Ojha

Department of Civil Engineering, Nepal Engineering College

(+977-9860013751)

To know more about the project visit https://bnesdg.eu/

2.2. Selection/Interview Committee formation

A meeting was held on 25th of B+NESDG project Team leader (Associate Professor Durgaprasad Bhandari) and Team Member (Associate professor Rabindra Budathoki, Associate professor Bibhuti Ojha, Assistant professor Krishna Bikram shah).

Meeting agenda

- Selection/Interview Committee formation

Meeting decision

Committee was formed which four member. Associate professor Rabindra Budathoki, Associate professor Bibhuti Ojha, Assistant professor Krishna Bikram shah and Associate professor Sachin Shrestha.

Responsibilities of the committee:

- Developing selection criteria
- Short listing candidates remaining within the criteria
- Call for interview
- Interview conduction
- Final selection

Meeting attendees:

Associate Professor Durgaprasad Bhandari

Associate professor Rabindra Budathoki

Associate professor Bibhuti Ojha

Assistant professor Krishna Bikram shah

2.3. Selection criteria

Date: September 01, 2022

Selection Criteria for the students of Nepal Engineering College to participate in joint research and capacity-building project B+NESDG.

1. 8 undergraduate students of Nepal Engineering College will be selected to participate in joint research and capacity building project B+NESDEG. It should include 4 male and 4 female students and should include student/s from all the programs of *nec* if possible.
2. To shortlist the applicants, 3 topper student applicants (based on average semester grade points) will be selected from each program (7 programs – Civil Engineering, Civil and Rural Engineering, Architecture, Computer Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering and B.E. Civil for Diploma Holders), if possible.
    a. If the list of 3 toppers doesn't include female applicant or male applicant from any of the program, at least one female applicant or male applicant will be included making a total of 4 applicants from that program.
    b. Criterion 2 is applicable only for the programs in which the applicant is more than or equal to 3 else the shortlisted applicant can be less than 3.
    c. In case of no male applicant or female applicants within the program, 3 toppers will be shortlisted.
3. Final marking scheme will include 75% from obtained grade in undergraduate exams and 25% from interview.
4. Interview will be of 10 minutes to 15 minutes.
5. Marking of interview will be based on
    a. Attitude of student
    b. Previous research/project works done by student
    c. Presentation skill during the interview session
    d. Knowledge on B+NESDEG
    e. Knowledge on the projects associated with SDG goals

Signature

B+NeSDG Team Members

1. Assoc. Prof. Durgapressad Bhandari
2. Assoc. Prof. Rabindra K. Budhathoki
3. Assoc. Prof. Bibhuti Ojha
4. Asst. Prof. Krishna Bikram Shah

Student Welfare and Extra Curricular Activities Division

1. Assoc. Prof. Sachin Shrestha (Chief)

2.4. Short listing of candidates

Date: September 05, 2022 NOTICE

Names of shortlisted candidates for the Interview among applicants from undergraduate students of 2017, 2018 and 2019 batch at Nepal Engineering College to participate in joint research and capacity-building project B+NESDG. **Selected candidates are advised to fill-up the Google Form to confirm a date for the interview which is scheduled between September 6 to 8, 2022. You are requested to bring a CV, Grade sheets, Proof of work on SDG related Projects/Research Work.** In case of any special reason for not being able to attend the interview during the period, please contact us before September 07, 2022.

Link to Google Form https://forms.gle/qbMbt1ozvZRA4WJRA

Scan the QR Code

LIST OF SHORTLISTED CANDIDATES FOR B+NESDG PROJECT

B.E. Civil and Rural Engineering				
Anjali Pandey	Female	017-821	2017	Semester-VIII
Sangita Ranabhat	Female	018- 836	2018	Semester - VI
Ajay Yadav	Male	018-804	2018	Semester - VI
B.E. Civil Engineering				
Rajendra Paudel	Male	019-072	2019	Semester - IV
Niranjan Lamichhane	Male	018-077	2018	Semester - VI
Nayan Kuikel	Male	019-066	2019	Semester - IV
**No Female Applicant*				
B.E. Civil Engineering for Diploma holders				
Menaka Ayer	Female	019-16	2019	Semester - IV
Tej Singh Air	Male	017-34	2017	Semester-VIII
Ankur Shrestha	Male	019-03	2019	Semester - IV
B.E. Computer Engineering				
Rojan Dahal	Male	018-322	2018	Semester - VI
Laxmi Chalise	Female	018-317	2018	Semester - VI
Sujan Sharma	Male	017-366	2017	Semester-VIII
B.E. Electrical and Electronics Engineering				
Dashunath Kandel	Male	018-605	2018	Semester - VI
Saroj Maharjan	Male	018-620	2018	Semester - VI
Pratap Bhandari	Male	017-616	2017	Semester-VIII
Rashmita Shrestha	Female	019-616	2019	Semester - IV
B. E. Electronics and Communication Engineering				
Rejina Bista	Female	017-416	2017	Semester-VIII
Rohit Bahadur Chand	Male	019-410	2019	Semester - IV
Aashish Timalsina	Male	019-401	2019	Semester - IV
B. Architecture – *No Applicants*				

2.5. Call for interview

Shortlisted students were informed and called for interview. The list was published on nec website and email was sent.

Interview:

Interview was conducted by three members of the committee at the IPO office ***nec*** Changunarayan in person on 14th and 15th September, 2022.

- Associate professor Rabindra Budathoki
- Associate professor Bibhuti Ojha
- Associate professor Sachin Shrestha

Out of the total 19 shortlisted, only 16 students came for the interview. The evaluation form format followed for the interview is

ALLOCATION MARKS FOR INTERVIEW-STUDENT EVALUATION

B+NESDG PROJECT

Date of Interview :

S. N.	Name of Applicant	Program	Batch	Aptitude (10)	Presentation (10)	GPA *-50	Research Oriented (30)	Total (100)	Remarks

*GPA-Grade point average

2.6. Final Selection (Interview Result)

Selected student list-B+NESDG PROJECT

On behalf of project team, we would like to extend our thanks to all the students who had shown interest in the B+NESDG project by applying it. Although all of the applicants were highly competent, as per the project requirement, we were restricted to select only eight candidates. The lists of the selected students are

S. N.	Name of Applicant	Program	Batch
1	Anjali pandey	Civil and Rural Engineering	Semester-VIII
2	Ajay yadav	Civil and Rural Engineering	Semester - VI
3	Rajendra Paudel	Civil Engineering	Semester - IV
4	Menaka Ayer	Civil Engineering for Diploma holders	Semester - IV
5	Rojan Dahal	Computer Engineering	Semester - VI
6	laxmi chalise	Computer Engineering	Semester - VI
7	Pratap Bhandari	Electrical and Electronics Engineering	Semester-VIII
8	Rejina Bista	Electronics and Communication Engineering	Semester-VIII

Note: The orientation for the selected students is scheduled on 25th of September, on nec-Changunarayan, Room number 221, at 8:30 AM sharp. For any inconvenience, contact

(9860013751-Associate professor Bibhuti Ojha)

Signature

B+NESDG Team member

1. Associate professor Durga Prasad Bhandari
2. Associate professor Rabindra Budathoki
3. Associate professor Bibhuti Ojha
4. Assistant Professor Krishna Bikram Shah

Student Welfare Division

Associate professor Sachin Shrestha

Fig.: Students involved in B+NeSDG (nec) participated in the Easter School Program at Pokhara University

3. Student Projects: Onsite PBL Pilots

3.1. Waste water management for irrigation purpose: A case study at Golmadhi Bhaktpur

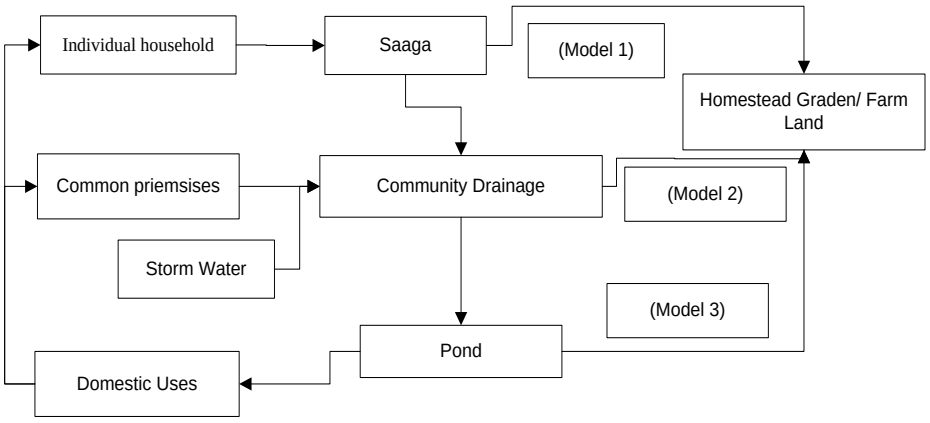
Team Members

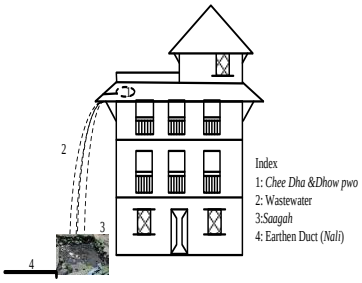
- Ajay Yadav (BE Civil and Rural, 2018)
- Anjali Pandey (BE Civil and Rural, 2017)
- Laxmi Chalise (BE Computer Engineering, 2018)

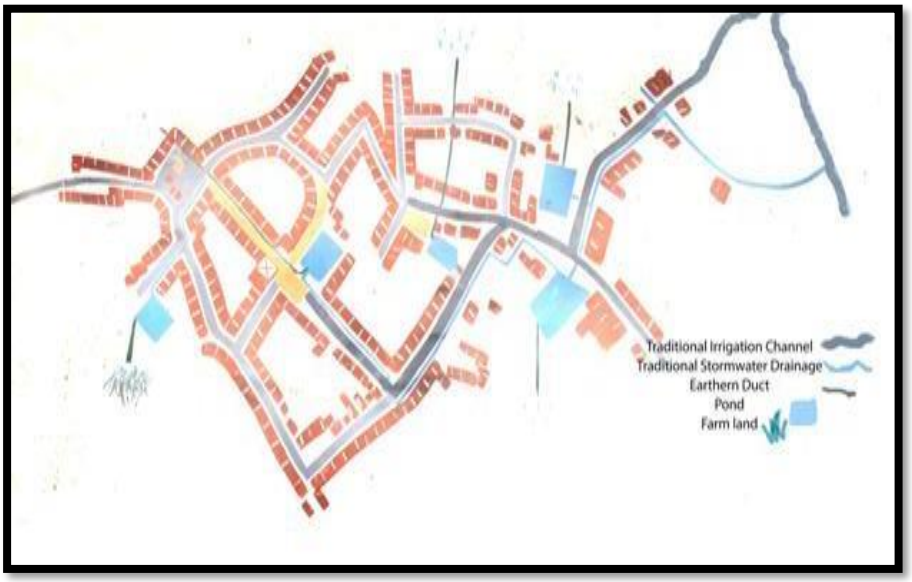
Summary of the project

- Agricultural-based livelihood is rooted in many parts of the Kathmandu valley and is more pronounced in Newar community.

- **To them:**
  - Wastewater is a 'resource' rather than environmental 'nuisance'
  - Solid and liquid wastes become problematic only when not handled properly.
  - People in Kathmandu Valley have knowledge, systems and practices for resource recovery from solid and liquid wastes.
  - In many places, wastewater is the only source for irrigation.

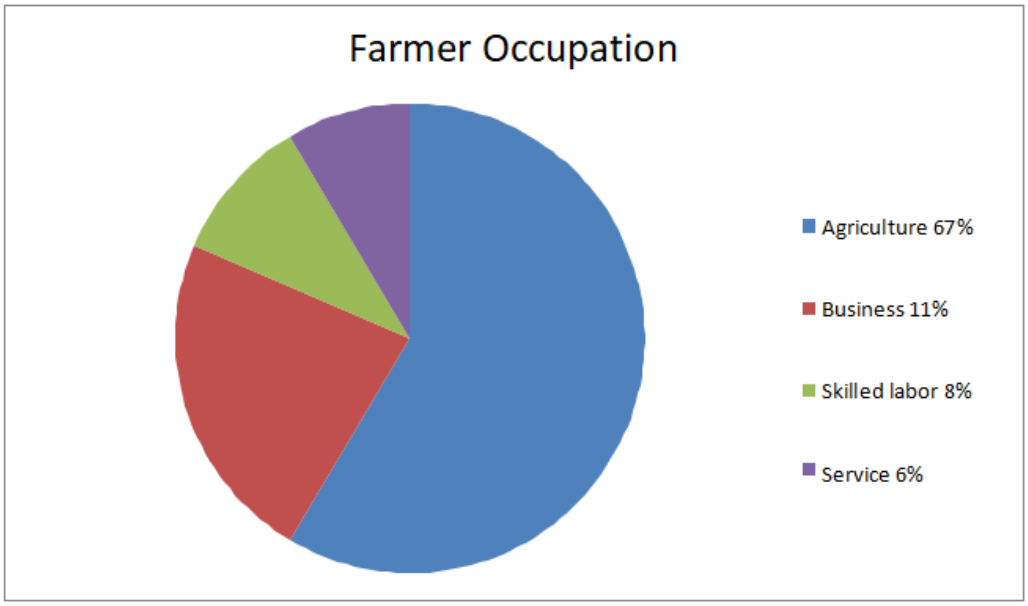






Result and discussion Farmer Characteristics

- The sample size of 14 farmers was taken.
- Out of the interviewed farmers,64% were female, and 36% were male.
- This pie chart shows the measure of occupation respondent farmers.



3.2. Solid Waste Management

Students Involved

- Rojan Dahal (BE Computer Engineering, 2018)
- Rajendra Paudel (BE Civil and Rural, 2019)

Background

- Kathmandu Valley is one of the fastest-growing metropolitan areas in South Asia
- Total waste generation per day is around 954 tons, and the cost for managing it is NRs. 45 lakh per day
- The current cost for handling one ton of Solid Waste (SW) NRs. 4700/- Apx. ($35)
- Lack of awareness and inadequate capacity development program, informal involvement of private waste collectors are major challenges
- Huge amounts of uncollected waste and open burning of waste are found due to the practice of mixing waste, lack of reduction, reuse and recycling system

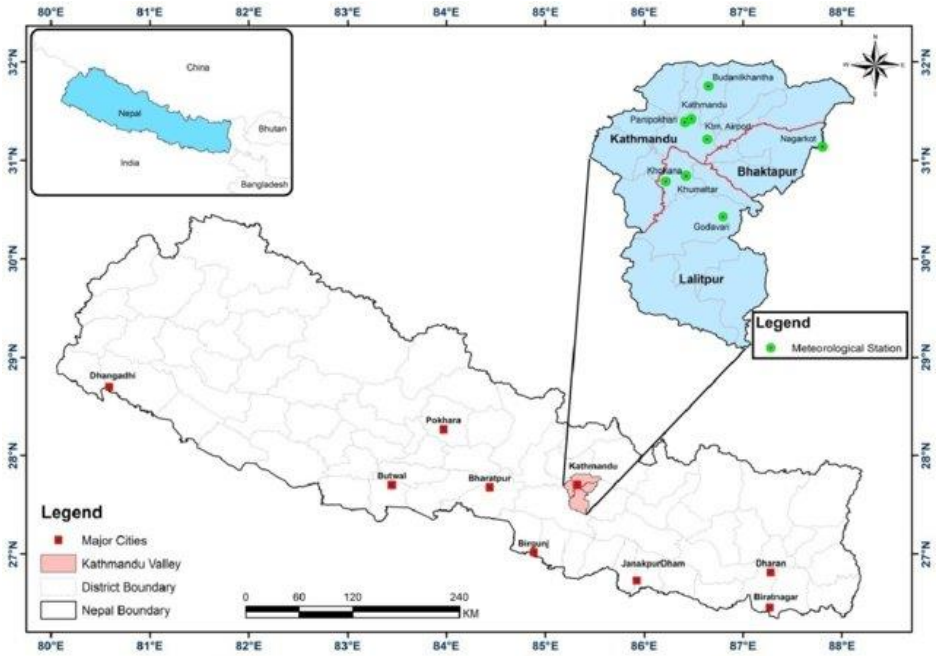
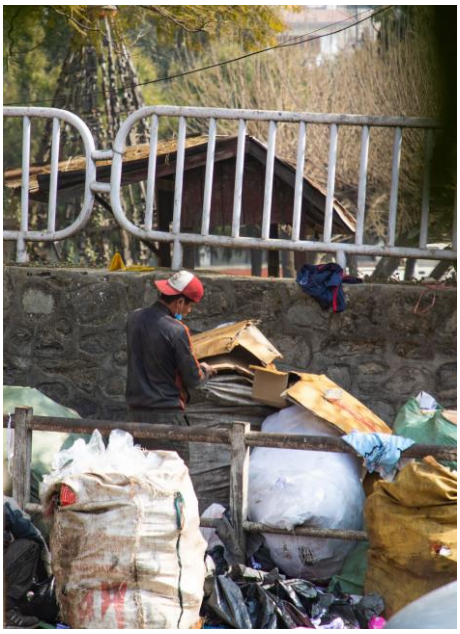


Fig.: Location of Kathmandu Valley and its district in Nepal (Source: Worldbank)

Fig.: Solid Waste pollution in Kathmandu Valley (Source: ADB Report)

Waste Collection Process

- Through waste collectors without segregation of waste



The percentage of municipalities reporting different ways of solid waste management

Categories	Percentage of Municipalities Reporting							Municipalities Reporting (N)
	Manure Making	Pile up in Landfill Site	Pile up in the river side	Open Dumping	Burning	Send for recycle	Excavator	
Metropolitan City	40.0	60.0	20.0		40.0	40.0		5
Sub-Metropolitan City	20.0	60.0	20	30	30.0	50.0	10.0	10
Municipality	8.6	47.7	27.9	20.8	32.0	11.7	10.2	197

Detailed Survey on Status of SWM in Kathmandu Valley

- The purpose of this research survey is to gather preliminary information to assess the importance of solid waste management for sustainable development in Nepal
- The indirect benefit of the study is to **improve understanding of the impact** of solid waste on the environment and Solid Waste Management Practices in Kathmandu
- Total Sections, Questions which were asked
    - Section A: Household Details (15 Questions)
    - Section B: Household Waste Generation and Disposal (10 Questions)
    - Section C: Garbage Collection Services (7 Questions)
    - Section D: Waste-related waterborne and vector infectious diseases and preventive measures (6 Questions)
    - Section E: Improvement of Solid Waste Management Service (4 Questions)

Proposed Solution to the current problems

- Operational: Building a system for on-demand waste collection
- Design of efficient storage facilities
- Policy: Governmental policies for land allocation to collection facilities

Build an Android app for OnDemand Waste Collection

- It can be developed using programming languages like Java, Kotlin, Dart etc.,
- The app will provide a database of the collection facilities
- Users will also be able to upload their waste for sell
- Providing optimized path of travel for waste collection

Design a managed Storage Facility for the Waste

- It can have a separate area for segregation and storage
- Define proper land allocation for the facility
- Installing proper roof to save the waste from rain and sunlight

3.3. Questionaries of Satisfactoriness from Students (Internal PBL Project & Students enrolled in the subjects for which curriculum was developed through B+NeSDG)

Questionaries of Satisfactoriness from Students (Internal PBL Project)

Questionaries	YES	NO
10. As pandemic times have forced us to develop capacity-building programs online, "Did you experience any technical issues? If so, please explain."	4	0
11. Was there anything missing from the training content? Please, if any, tell us.	4	0
12. Did you find any aspect of the course unclear or confusing? Please elaborate	0	4
13. After the training is received, will you be able to provide training on the subject?	4	0

4. B+NeSDG Curriculum Development Status

A meeting between Nepal Engineering College & Pokhara University was held on May 25, 2022, to discuss the development of the curriculum, and the point discussed was

Details of Subjects, concerned program and department where the subject could be assigned

Subject	Concerned Program/ Department	Resource Person
Sustainable Water (Elective, 3 Cr.Hr.)	MSc. IWRM/NRM	1. Dr. Binay Mishra (9858088566) 1. Dr. Hari Krishna Shrestha (9851006010)
Sustainable Transport (Elective, 3 Cr.Hr.)	MSc. TEAM	1. Dr. Padam Shahi 2. Dr. Kamal Panday (9851055999)
Technology Innovation for Sustainable Development (Elective, 3 Cr.Hr.)	BE (General)	1. Dr. Binayak Bhadra 2. Krishna Bikram Shah
Water Supply & Sanitation (Elective, 3 Cr.Hr.)	MSc. Environment Mgmt., MSc. Sanitation	1. Dr. Anish Ghimire (KU) (9851006051) 2. Dr. Rajib Pokhrel (9851221795) 3. Assoc. Prof. Bibhuti Ojha (9860013751)
Include SDG in Projects	BE/MSc. Programs	

A Workshop on Finalizing SDGs Related Courses, hosted by Pokhara University and Nepal Engineering College on Sep 28, 2023, within the framework of the ERASMUS+ co-funded project, B+NeSDG, by the European Union EU. Aligning education with the Sustainable Development Goals is vital, and this event showcased a collective commitment to that goal.

Following experts participated in the Workshop on Finalizing the courses

SN	Name	Address	Mobile No	Subject Area
1	Dr. Purna Bahadur Khand	Curriculum Development Centre, PU	9841530910	
2	Assoc. Prof. Durga Bhandari	Nepal Engineering College	9851320850	
3	Prof. Dr. Vishnu Prasad Pandey	Pulchowk Campus, Institute of Engineering, Tribhuvan University	9841318939	Sustainable Water
4	Dr. Pawan K. Bhattarai	Pulchowk Campus Institute of Engineering Tribhuvan University	9851212321	Sustainable Water
5	Assoc. Prof. Arjun Gautam	School of Engineering, Pokhara University	9856034309	Sustainable Water
6	Dr Robert Dongol	IWRM, Nepal Engineering College	9851140985	Sustainable Water
7	Dr Narayan Prasad Koju	NRM, Nepal Engineering College	9841514747	Sustainable Water
8	Prof. Dr. Padma Bahadur Shahi	Nepal Engineering Council	9851091057	Sustainable Transport
9	Assoc. Prof. Buddhi Raj Joshi	School of Engineering, Pokhara University	9856035449	Sustainable Transport
10	Dr. Akhilesh Kumar Karna	Pulchowk Campus, Institute of Engineering, Tribhuvan University	9818578140	Sustainable Transport

11	Assoc. Prof. Mohan Dhoj KC	Nepal Engineering College	9851168091	Sustainable Transport
12	Er. Gopal Gautam	Nepal Engineering College	9849780976	Sustainable Transport
13	Asst. Prof. Krishna Bikram Shah	Nepal Engineering College	9868133268	Technology Innovation
14	Er. Ashish Kumar Jha	Nepal Engineering College	9849032579	Technology Innovation
15	Er. Deepesh Prakash Guragain	Nepal Engineering College	9841113139	Technology Innovation
16	Dr. Arun Satyal	Nepal Engineering College	9842596661	Technology Innovation
17	Assoc. Prof. Dr. Rajib Pokhrel	School of Engineering, Pokhara University	9851221795	Water Supply and Sanitation
18	Er. Resham Jung Singh	Nepal Water for Health (NEWAH) | Headquarters, Lohasal, Kathmandu Nepal	9851091381	Water Supply and Sanitation
19	Er. Dinesh Bhatta	Freelancer	9851185085	Water Supply and Sanitation

4.1. Details of Curriculum Developed & Status

Course	Course credit	Level	The program to whom the courses are offered	Total number of students	Expected Course commencement date
Sustainable Water Management	3	Master's	• Interdisciplinary Water Resources Management (IWRM)	30	November 27, 2023
Sustainable Transportation	3	Master's	• Construction management	30	November 27, 2023
Technology Innovation for Sustainable Development	3	Bachelor	• Engineering (General)	50	November, 2023

4.2. Quality Accredited Subject

This procedure has been developed to help design the quality report of accredited subjects from the perspective of the B+NSDG project.

Each section should be given a qualitative assessment, which should be justified, and a quantitative assessment based on the following:

- A: excellent proposal
- B: adequate or sufficient proposal
- C: generally adequate proposal, but needs improvement
- D: inadequate or insufficient proposal

The procedure consists of three criteria, all of which are oriented toward defining the quality of the formative proposal from the perspective of education for sustainable development, keeping in mind the circumstances and characteristics of the degree, the subject, and the students.

4.3. Quality Accredited Subject

4.3.1. **Sustainable Water Management (Elective, Credit 3, Masters Level)**

Criterion 1: Designing the subject

Our objective is to determine whether the subject has been designed following the orientation of the B+NSDG project and whether it incorporates education for sustainable development adequately into its program, the course in which it is taught, and the characteristics of the students to whom it is directed.

1.1 Among the learning outcomes of the subject, are any of them explicitly related to sustainable development, and are these correctly written?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.

Aspects to review:

- Whether the subject has learning outcomes related to sustainable development.
- Whether these learning outcomes are well written and are suitable for the level of the subject and the type of student who would take it.
- Whether they are reachable and assessable.

Justified qualitative assessment:

The overall learning output includes topics from conjunctive water balance analysis, legal and regulatory guidelines, water governance, etc but however fails to incorporate the climate change and gender perspective in any of the outcome. Inclusion of the direct problem impacts of climate change and gender perspective/role will be beneficial.

Semi-quantitative assessment (mark with an X):

A	B	C	D

		x	

1.2 Are the subject contents related to sustainable development sufficient and suitable, in view of the characteristics of the degree, the subject, and the students to whom it is intended?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of subject contents.
- Teaching materials, like notes or presentations.

Aspects to revise:

- Whether there is a program of subject contents related to sustainable development and what they are.
- Whether these contents are sufficient and suitable considering the characteristics of the subject and its students.
- Whether there are teaching materials (notes, videos, presentations, etc.) containing these contents that can be used as teaching aids.

Justified qualitative assessment:

The subject content seems enough to explain the concept of sustainability. Yes, definitely may outline notes, presentations, live meetings are available for proper and more endepth understanding. These videos provides updated and real-time scenarious.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

1.3 Does the subject include formative activities involving the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- The professor's program.
- Practical class scripts, reports, projects, etc. involving the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the subject includes activities where students must do works, projects, or reports, etc. related to sustainable development.
- Whether these activities are sufficient and suitable.
- Whether debates, student presentations, visits, etc. related to sustainable development are carried out.

Justified qualitative assessment:

Assignments, presentation will definitely aid upon formative assessment. However, continuous monitoring can still be done with regular quizzes and group work.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

1.4 Are the learning outcomes related to sustainable development assessed by the professor, and is this assessment coherent with the contents of the subject and the formative activities involving these learning outcomes?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessment tests that totally or partially consider the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the learning outcomes related to sustainable development are assessed.
- Whether the way of assessing them is suitable in view of the contents of the subject and the formative activities used.
- Whether the weight of the assessment of these learning outcomes in the final grade of the subject is suitable.
- Whether the assessment has been adapted to the characteristics of the subject and its students.

Justified qualitative assessment:

The formative assessment includes total of 90% of weight. The term exam is also a mode of assessment related to subject content. The term sustainability however cannot be explained particularly in real time scenarios for water resources and hence mark the learning outcomes outlined for the tipic justifies the assessment.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

Criterion 2: Teaching and assessment

We aim to verify that the formative activities and assessment of the learning outcomes related to sustainable development have been carried out as planned, and if this has not been the case, why not.

2.1. Have the professors of the subject made a preliminary analysis of the situation in which they are going to teach the subject (for example, available resources, characteristics of the students, etc.)?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.
- Report by professor teaching the subject.

Aspects to revise:

- Whether the professor has made a preliminary analysis of the situation and adapted to it.
- Whether the professor knows the characteristics of the students in the class, their level, possible problems or incompatibilities with other subjects, etc.
- Whether the professor knows what contents and activities related to sustainable development have been taught in subjects previously taken by the students.

Justified qualitative assessment:

The professor aims to disseminates the information/knowledge of sustainable development with the resources available. However, taking into consideration of individually assessing the student characteristics would not be favourable in formative activities as it would be bias for everybody else.

Semi-quantitative assessment (mark with an X):

A	B	C	D
		X	

2.2. Have the professors explained to the students at the beginning of the course their plan for teaching the subject and how sustainable development will be integrated into the subject matter?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.

Aspects to revise:

- Whether the students have received information, either verbally or from the Teaching Guide, about the aspects related to sustainable development that will be studied in the subject.
- Whether they have received information about how these aspects will affect assessment.

Justified qualitative assessment:

Understanding the overall concept of sustainable development from various aspects is necessary. An interdisciplinary courses aims to do so by taking into account the various aspects of sustainable development and will also aim to disseminate the same to students in course of his/her teaching.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

2.3. Are the human resources and materials adequate to reach the formative objectives of the subject, especially in terms of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Report by the professor teaching the subject.

Aspects to revise:

- Whether adequate installations are available (laboratories, computer rooms, etc.) to carry out the formative activities related to sustainable development.
- Whether the necessary contacts and permission to make visits, do external practice, etc. have been obtained.
- Whether there are teaching materials (publications, videos, presentations, etc.) about sustainable development available to students and professors.

Justified qualitative assessment:

Participation in subject-related workshops, learnings etc, will always be encouraged. With the participation afterwards, dissemination of knowledge would be beneficial on a broader scale. Where many students can benefit. Online free materials would also be used, and this will also help to access the information when needed

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

2.4. Have the formative activities and the assessment been carried out as planned?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessed activities that totally or partially contemplate the learning outcomes related to sustainable development.
- Report by the professor giving the subject.

Aspects to revise:

- Whether incidents have occurred affecting teaching in aspects related to sustainable development.
- Whether incidents have occurred affecting the assessment of aspects related to sustainable development.
- Whether the causes of the incidents and how to resolve them are known.

Justified qualitative assessment:

The formative activity planned/maintained are assignments/quizzes/presentation and the term exam. The planning of the activity is scheduled as per the college rules and norms. Professors can however modify and formulate their own way of quiz, presentation.

Semi-quantitative assessment (mark with an X):

A	B	C	D
		x	

Criterion 3: Results

The aim is to verify whether the expected teaching results have been reached, the learning outcomes related to sustainable development have been obtained, and the students are satisfied with the teaching-learning process.

3.1. Have the objectives related to sustainable development been reached?

Materials to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of the subject.
- Report by the professor giving the subject.

Aspects to revise:

- Whether the objectives related to sustainable development are present in the subject's Teaching Guide or other document.
- Whether the professors feel they have covered the objectives related to sustainable development.

Justified qualitative assessment:

Then contents provided demonstrate that the objective of giving the concept of sustainable development can be achived.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

3.2. Have the academic results (passing and performance rates or other academic indicators) been reasonable?

Material to consult for the assessment:

- Academic indicators.

Aspects to revise:

- Whether the academic results, overall in areas of sustainable development, have been those foreseen.
- Whether these academic results are similar to those of other subjects of the same type.

Justified qualitative assessment:

Semi-quantitive assessment (mark with an X):

A	B	C	D

3.3. Is the students' satisfaction with how sustainable development has been treated in the subject adequate?

Material to consult for the assessment:

- Student satisfaction surveys. It is advisable to include items about sustainable development.

Aspects to revise:

- Whether the students are satisfied with the content, learning activities, and the assessment related to sustainable development.
- Whether the students think they have acquired the learning outcomes of the subject related to sustainable development.
- Whether the students have given any suggestions or criticism that could improve the teaching of sustainable development.

Justified qualitative assessment:

Semi-qualitative assessment (mark with an X):

A	B	C	D

3.4. Have the professors of the subject analyzed the results, and if so, have they proposed actions to improve the teaching activities or the assessment of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's report.

Aspects to revise:

- Whether the professor's report includes this analysis.
- Whether actions to improve the contents, teaching activities and assessment, material resources, etc. related to sustainable development have been proposed.
- Whether the possible improvements were planned for previous courses.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

4.3.2. Sustainable Transportation

Criterion 1: Designing the subject

Our objective is to determine whether the subject has been designed following the orientation of the B+NSDG project and whether it incorporates education for sustainable development adequately into its program, the course in which it is taught, and the characteristics of the students to whom it is directed.

1.1 Among the learning outcomes of the subject, are any of them explicitly related to sustainable development, and are these correctly written?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.

Aspects to review:

- Whether the subject has learning outcomes related to sustainable development.
- Whether these learning outcomes are well written and are suitable for the level of the subject and the type of student who would take it.
- Whether they are reachable and assessable.

Justified qualitative assessment:

Learning outcome of the subject are sustainable development however, they are broad & vague. A simple objective would have been better. Transportation policy initiatives eq. congestion changes, regulations, etc. innovative vehicle technology, NMT are not considered.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

1.2 Are the subject contents related to sustainable development sufficient and suitable, in view of the characteristics of the degree, the subject, and the students to whom it is intended?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of subject contents.
- Teaching materials, like notes or presentations.

Aspects to revise:

- Whether there is a program of subject contents related to sustainable development and what they are.
- Whether these contents are sufficient and suitable considering the characteristics of the subject and its students.
- Whether there are teaching materials (notes, videos, presentations, etc.) containing these contents that can be used as teaching aids.

Justified qualitative assessment:

The Content and deliveries are well as the target student is very relevant. The teaching methodology is not maintained clearly.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

1.3 Does the subject include formative activities involving the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- The professor's program.
- Practical class scripts, reports, projects, etc. involving the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the subject includes activities where students must do works, projects, or reports, etc. related to sustainable development.
- Whether these activities are sufficient and suitable.
- Whether debates, student presentations, visits, etc. related to sustainable development are carried out.

Justified qualitative assessment:

The course has been dedicated to the Field visit. In the case study, however, a group PBL would be more beneficial. Field works are found to be considered, but other activities are not found to be clearly maintained.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

1.4 Are the learning outcomes related to sustainable development assessed by the professor, and is this assessment coherent with the contents of the subject and the formative activities involving these learning outcomes?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessment tests that totally or partially consider the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the learning outcomes related to sustainable development are assessed.
- Whether the way of assessing them is suitable in view of the contents of the subject and the formative activities used.
- Whether the weight of the assessment of these learning outcomes in the final grade of the subject is suitable.
- Whether the assessment has been adapted to the characteristics of the subject and its students.

Justified qualitative assessment:

Continuous assessment methodologies like group project presentations, seminars, and PBLs should emphasize the 60% evaluation range of internal evaluation. The evaluation system and students' responsibilities are considered.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

Criterion 2: Teaching and assessment

We aim to verify that the formative activities and assessment of the learning outcomes related to sustainable development have been carried out as planned, and if this has not been the case, why not.

2.1. Have the professors of the subject made a preliminary analysis of the situation in which they are going to teach the subject (for example, available resources, characteristics of the students, etc.)?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.
- Report by professor teaching the subject.

Aspects to revise:

- Whether the professor has made a preliminary analysis of the situation and adapted to it.
- Whether the professor knows the characteristics of the students in the class, their level, possible problems or incompatibilities with other subjects, etc.
- Whether the professor knows what contents and activities related to sustainable development have been taught in subjects previously taken by the students.

Justified qualitative assessment:

The professor knows the students' competency and their leve for adopting the course as well as the previous subjects related SD delivered to the students.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

2.2. Have the professors explained to the students at the beginning of the course their plan for teaching the subject and how sustainable development will be integrated into the subject matter?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.

Aspects to revise:

- Whether the students have received information, either verbally or from the Teaching Guide, about the aspects related to sustainable development that will be studied in the subject.

- Whether they have received information about how these aspects will affect assessment.

Justified qualitative assessment:

The professor will provide the course syllabus, objective, learning outcome, and assessment procedure as hands-out and explain by the professor in the lecture hours.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

2.3. Are the human resources and materials adequate to reach the formative objectives of the subject, especially in terms of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Report by the professor teaching the subject.

Aspects to revise:

- Whether adequate installations are available (laboratories, computer rooms, etc.) to carry out the formative activities related to sustainable development.
- Whether the necessary contacts and permission to make visits, do external practice, etc. have been obtained.
- Whether there are teaching materials (publications, videos, presentations, etc.) about sustainable development available to students and professors.

Justified qualitative assessment:

The institution does have the necessary prerequisites and infrastructure to carry out the formative activities. The institution also has built the rap bot with the government organization, NGOs, and private farms, and the acquaintance would be institutional.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

2.4. Have the formative activities and the assessment been carried out as planned?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessed activities that totally or partially contemplate the learning outcomes related to sustainable development.
- Report by the professor giving the subject.

Aspects to revise:

- Whether incidents have occurred affecting teaching in aspects related to sustainable development.
- Whether incidents have occurred affecting the assessment of aspects related to sustainable development.
- Whether the causes of the incidents and how to resolve them are known.

Justified qualitative assessment:

The code of conduct for conducting the activities seems necessary and the issue solving mechanism must be built.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

Criterion 3: Results

The aim is to verify whether the expected teaching results have been reached, the learning outcomes related to sustainable development have been obtained, and the students are satisfied with the teaching-learning process.

3.1. Have the objectives related to sustainable development been reached?

Materials to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of the subject.
- Report by the professor giving the subject.

Aspects to revise:

- Whether the objectives related to sustainable development are present in the subject's Teaching Guide or other document.
- Whether the professors feel they have covered the objectives related to sustainable development.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

3.2. Have the academic results (passing and performance rates or other academic indicators) been reasonable?

Material to consult for the assessment:

- Academic indicators.

Aspects to revise:

- Whether the academic results, overall in areas of sustainable development, have been those foreseen.
- Whether these academic results are similar to those of other subjects of the same type.

Justified qualitative assessment:

Semi-quantitive assessment (mark with an X):

A	B	C	D

3.3. Is the students' satisfaction with how sustainable development has been treated in the subject adequate?

Material to consult for the assessment:

- Student satisfaction surveys. It is advisable to include items about sustainable development.

Aspects to revise:

- Whether the students are satisfied with the content, learning activities, and the assessment related to sustainable development.
- Whether the students think they have acquired the learning outcomes of the subject related to sustainable development.
- Whether the students have given any suggestions or criticism that could improve the teaching of sustainable development.

Justified qualitative assessment:

Semi-qualitative assessment (mark with an X):

A	B	C	D

3.4. Have the professors of the subject analyzed the results, and if so, have they proposed actions to improve the teaching activities or the assessment of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's report.

Aspects to revise:

- Whether the professor's report includes this analysis.
- Whether actions to improve the contents, teaching activities and assessment, material resources, etc. related to sustainable development have been proposed.
- Whether the possible improvements were planned for previous courses.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

4.3.3. Technology Innovation for Sustainable Development

Criterion 1: Designing the subject

Our objective is to determine whether the subject has been designed following the orientation of the B+NSDG project and whether it incorporates education for sustainable development adequately into its program, the course in which it is taught, and the characteristics of the students to whom it is directed.

1.1 Among the learning outcomes of the subject, are any of them explicitly related to sustainable development, and are these correctly written?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.

Aspects to review:

- Whether the subject has learning outcomes related to sustainable development.

- Whether these learning outcomes are well written and are suitable for the level of the subject and the type of student who would take it.
- Whether they are reachable and assessable.

Justified qualitative assessment:

The course explicitly mentions the Sustainable Development Goals (SDGs) and their relevance to sustainable development. The specific topics (SDG-7, SDG-9, and SDG-11) align with the B+NSDG project. This demonstrates a strong commitment to incorporating education for sustainable development into the course.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

1.2 Are the subject contents related to sustainable development sufficient and suitable, in view of the characteristics of the degree, the subject, and the students to whom it is intended?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of subject contents.
- Teaching materials, like notes or presentations.

Aspects to revise:

- Whether there is a program of subject contents related to sustainable development and what they are.
- Whether these contents are sufficient and suitable considering the characteristics of the subject and its students.
- Whether there are teaching materials (notes, videos, presentations, etc.) containing these contents that can be used as teaching aids.

Justified qualitative assessment:

The program, encompassing SDGs 7, 9, and 11, is meticulously structured and fits the interdisciplinary course framework. It addresses global and national agendas, delves into technology's role, and evaluates technology sustainability. Contents are present and apt for engineering students, offering a diverse exploration of sustainable development. Teaching materials include lectures, case studies, and assignments. The course's overall qualitative assessment is outstanding (A), highlighting its well-rounded design, alignment with the degree's characteristics, and effective teaching methodologies for an engaging learning experience.

Semi-quantitative assessment (mark with an X):

A	B	C	D
x			

1.3 Does the subject include formative activities involving the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- The professor's program.
- Practical class scripts, reports, projects, etc. involving the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the subject includes activities where students must do works, projects, or reports, etc. related to sustainable development.
- Whether these activities are sufficient and suitable.
- Whether debates, student presentations, visits, etc. related to sustainable development are carried out.

Justified qualitative assessment:

The subject's formative activities related to sustainable development earn a qualitative assessment of B (Adequate). The presence of works, projects, and reports is commendable, providing a foundation for practical engagement. However, opportunities for enhancement exist, with potential improvements in the diversity and depth of activities. The inclusion of debates, student presentations, and visits, not explicitly mentioned, represents an area needing improvement to align with best practices in experiential learning. Ensuring a wider range of activities and their alignment with learning outcomes could enrich the overall learning experience. While the existing activities are suitable, there is room for augmentation to further engage students in the multifaceted aspects of sustainable development, contributing to a more robust and comprehensive educational experience.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

1.4 Are the learning outcomes related to sustainable development assessed by the professor, and is this assessment coherent with the contents of the subject and the formative activities involving these learning outcomes?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessment tests that totally or partially consider the learning outcomes related to sustainable development.

Aspects to revise:

- Whether the learning outcomes related to sustainable development are assessed.

- Whether the way of assessing them is suitable in view of the contents of the subject and the formative activities used.
- Whether the weight of the assessment of these learning outcomes in the final grade of the subject is suitable.
- Whether the assessment has been adapted to the characteristics of the subject and its students.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

Criterion 2: Teaching and assessment

We aim to verify that the formative activities and assessment of the learning outcomes related to sustainable development have been carried out as planned, and if this has not been the case, why not.

2.1. Have the professors of the subject made a preliminary analysis of the situation in which they are going to teach the subject (for example, available resources, characteristics of the students, etc.)?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.
- Report by professor teaching the subject.

Aspects to revise:

- Whether the professor has made a preliminary analysis of the situation and adapted to it.
- Whether the professor knows the characteristics of the students in the class, their level, possible problems or incompatibilities with other subjects, etc.
- Whether the professor knows what contents and activities related to sustainable development have been taught in subjects previously taken by the students.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

2.2. Have the professors explained to the students at the beginning of the course their plan for teaching the subject and how sustainable development will be integrated into the subject matter?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's program.

Aspects to revise:

- Whether the students have received information, either verbally or from the Teaching Guide, about the aspects related to sustainable development that will be studied in the subject.
- Whether they have received information about how these aspects will affect assessment.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

2.3. Are the human resources and materials adequate to reach the formative objectives of the subject, especially in terms of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Report by the professor teaching the subject.

Aspects to revise:

- Whether adequate installations are available (laboratories, computer rooms, etc.) to carry out the formative activities related to sustainable development.
- Whether the necessary contacts and permission to make visits, do external practice, etc. have been obtained.
- Whether there are teaching materials (publications, videos, presentations, etc.) about sustainable development available to students and professors.

Justified qualitative assessment:

While there is confirmation of available human resources, the absence of laboratories raises concerns about the completeness of installations. The proactive approach to external engagements, although with concerns, demonstrates a degree of adequacy in facilitating practical exposure. Despite these limitations, efforts to secure permissions for

visits and external practices contribute positively. Adequacy is recognized, but improvement opportunities lie in addressing the absence of laboratories and refining external engagement strategies. In summary, the subject exhibits adequacy in certain aspects, but addressing the identified limitations would enhance its overall effectiveness.

Semi-quantitative assessment (mark with an X):

A	B	C	D
	x		

2.4. Have the formative activities and the assessment been carried out as planned?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Exams and other assessed activities that totally or partially contemplate the learning outcomes related to sustainable development.
- Report by the professor giving the subject.

Aspects to revise:

- Whether incidents have occurred affecting teaching in aspects related to sustainable development.
- Whether incidents have occurred affecting the assessment of aspects related to sustainable development.
- Whether the causes of the incidents and how to resolve them are known.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

Criterion 3: Results

The aim is to verify whether the expected teaching results have been reached, the learning outcomes related to sustainable development have been obtained, and the students are satisfied with the teaching-learning process.

3.1. Have the objectives related to sustainable development been reached?

Materials to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Detailed program of the subject.
- Report by the professor giving the subject.

Aspects to revise:

- Whether the objectives related to sustainable development are present in the subject's Teaching Guide or other document.
- Whether the professors feel they have covered the objectives related to sustainable development.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

A	B	C	D

3.2. Have the academic results (passing and performance rates or other academic indicators) been reasonable?

Material to consult for the assessment:

- Academic indicators.

Aspects to revise:

- Whether the academic results, overall in areas of sustainable development, have been those foreseen.
- Whether these academic results are similar to those of other subjects of the same type.

Justified qualitative assessment:

Semi-quantitive assessment (mark with an X):

A	B	C	D

3.3. Is the students' satisfaction with how sustainable development has been treated in the subject adequate?

Material to consult for the assessment:

- Student satisfaction surveys. It is advisable to include items about sustainable development.

Aspects to revise:

- Whether the students are satisfied with the content, learning activities, and the assessment related to sustainable development.

- Whether the students think they have acquired the learning outcomes of the subject related to sustainable development.
- Whether the students have given any suggestions or criticism that could improve the teaching of sustainable development.

Justified qualitative assessment:

Semi-qualitative assessment (mark with an X):

A	B	C	D

3.4. Have the professors of the subject analyzed the results, and if so, have they proposed actions to improve the teaching activities or the assessment of the learning outcomes related to sustainable development?

Material to consult for the assessment:

- Teaching Guide of the subject or similar document.
- Professor's report.

Aspects to revise:

- Whether the professor's report includes this analysis.
- Whether actions to improve the contents, teaching activities and assessment, material resources, etc. related to sustainable development have been proposed.
- Whether the possible improvements were planned for previous courses.

Justified qualitative assessment:

Semi-quantitative assessment (mark with an X):

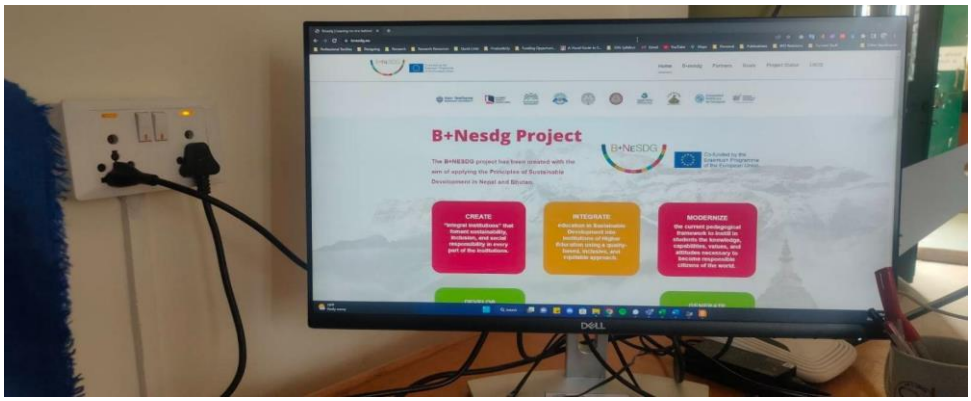
A	B	C	D

4.4. Details of Curriculum Developed and number of students engaged.

SN	Course Name (Credit)	Subject Type	Level and Stream	Expected date of

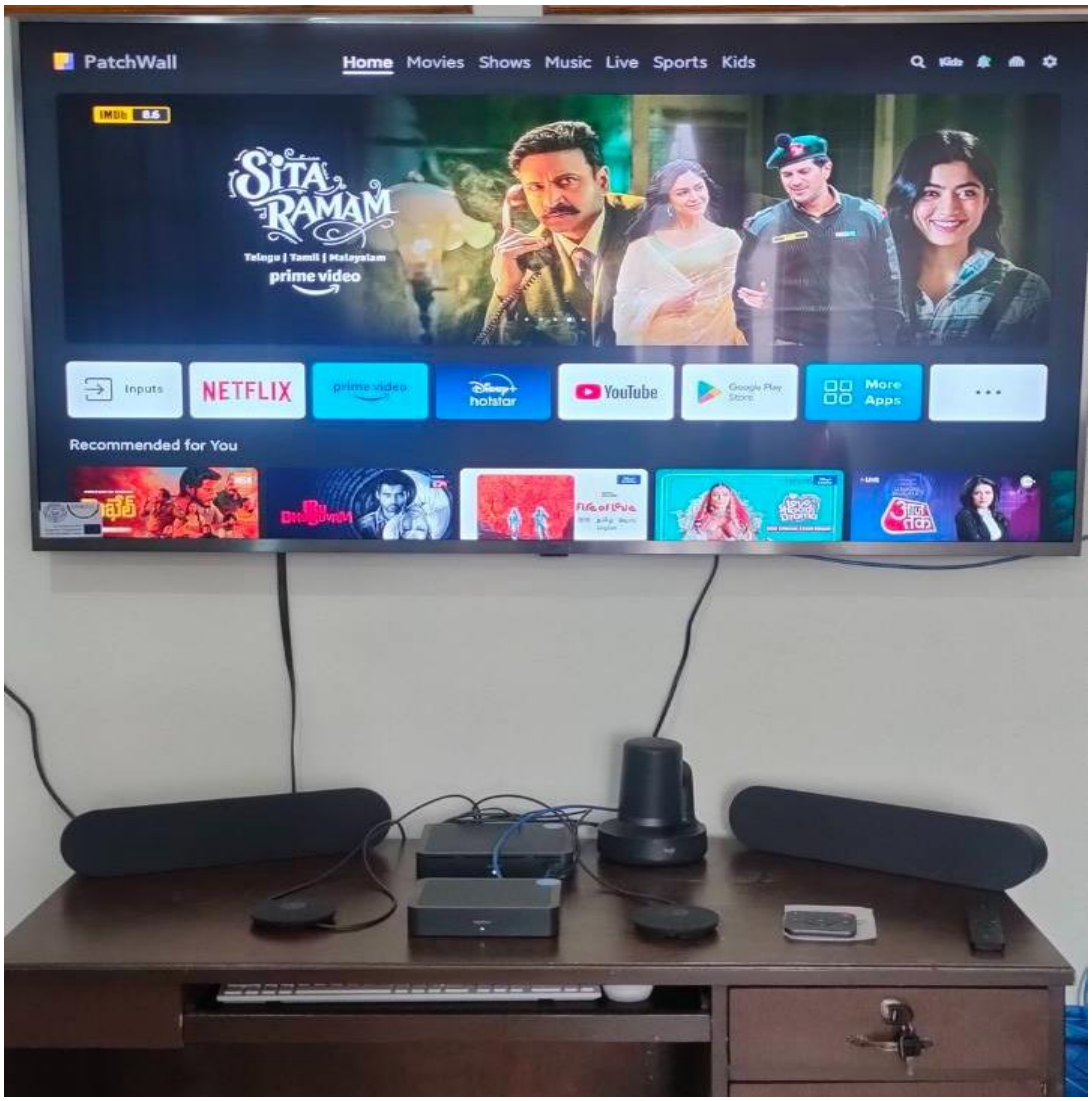
				commencement and Number of Students

5. Establishment of Sustainable Development Office

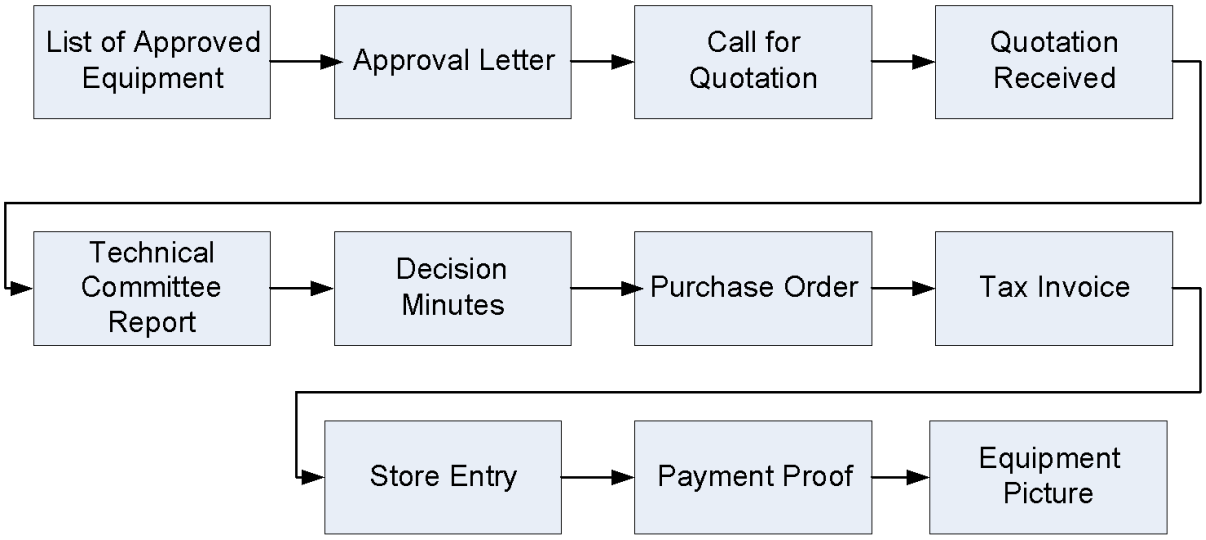


Workstation with Xeon Processor/2TB HDD/GPU

6 Laptops for B+NeSDG Project Members and SD Office



Logitech Large Room Rally Conference System with 65" Display



Flow chart of the procurement process

6. Letter of Support and List of Stakeholders involved in B+NeSDG Project at ***nec***

Government of Nepal
Ministry of Home Affairs
DEPARTMENT OF IMMIGRATION
(Information Tech. Section)

Ref. No.:- 2080-03/IT

Government of Nepal
Ministry of Home Affairs
Department of Immigration
Kathmandu, Nepal

Kalikasthan, Kathmandu, Nepal
Date: October 01, 2023

WHOM IT MAY CONCERN

I am expressing my enthusiastic support for the B+NeSDG initiative, co-funded by the European Union's Erasmus+ programme. This initiative to promote Sustainable development in Bhutan and Nepal, focusing on education, is of the utmost importance in the contemporary world.

Your participation in this endeavour is highly commendable, given your dedication to addressing social issues and advancing knowledge in your respective fields. Your contributions to [Company/Institution Name] have been instrumental in finding innovative solutions to real-world problems, whether through electronics, IoT systems, flood forecasting, weather stations, pollution monitoring, water quality initiatives, or medical drone deliveries.

The mission of the B+NeSDG project to transform higher education institutions into international references corresponds with your commitment to acquiring knowledge and comprehending the business needs of companies in developing nations. This type of collaboration and synergy can result in positive change and an increase in the quality of life in our region.

I recognise the project's importance and the affirmed impact it has had thus far. I indicate my willingness to participate in future project-related events and activities actively. In addition, I am committed to cooperating to the greatest extent possible to ensure the sustainability, effective utilisation, and continued success of the project's outcomes beyond the funding period of the European Commission.

The B+NeSDG project holds great promise in contributing to the broader objectives of sustainable development in our region, and your support and involvement are pivotal to its success. I look forward to working with you and the rest of the team to make a significant impact.

Thank you for your commitment to bettering the world through your labour and support of the B+NeSDG project.

Sincere regards,
Pramod sharma
Computer Engineer

☎: 01-4429659, 4429660, 4433934, 4438862, 4438868, Fax: 4433935
E-mail : info@nepalimmigration.gov.np, mail22doi@gmail.com
Website: www.nepalimmigration.gov.np

Himalayan WhiteHouse International College

(Affiliated to Purbanchal University)

Date: October 03, 2023

WHOM IT MAY CONCERN

I am expressing my enthusiastic support for the B+NeSDG initiative, co-funded by the European Union's Erasmus+ programme. This initiative to promote Sustainable development in Bhutan and Nepal, focusing on education, is of the utmost importance in the contemporary world.

Throughout my tenure at Himalayan White House International College, my contributions have consistently been at the forefront of finding innovative and impactful solutions to real-world challenges. Whether it's been my pioneering work in the fields of Environmental Management, Climate Change, Waste Management, Flood Forecasting, pollution monitoring, GHG Emission and Sustainable Development, I have dedicated substantial time and energy to these areas.

The mission of the B+NeSDG project to transform higher education institutions into international references corresponds with your commitment to acquiring knowledge and comprehending the business needs of companies in developing nations. This type of collaboration and synergy can result in positive change and an increase in the quality of life in our region.

I enthusiastically indicate my willingness to participate actively in future project-related events and activities. Additionally, I am committed to collaborating to the fullest extent possible to ensure the sustainability, effective utilization, and continued success of the project's outcomes beyond the funding period of the European Commission.

The B+NeSDG project holds great promise in contributing to the broader objectives of sustainable development in our region, and your support and involvement are pivotal to its success. I look forward to working with you and the rest of the team to make a significant impact.

Thank you for your commitment to bettering the world through your labor and support of the B+NeSDG project.

Sincere regards,

Er. Alka Sapkota, PhD
Associate Professor/Vice Principal
Himalayan WhiteHouse International College
Kathmandu, Nepal

List of Stakeholders				
SN	**Company Name**	**Contact Person**	**Field of studies/case preparation**	**Contact number/ email /website**
1	**Engineering Adda/** **DroNepal**	Er. Darpan Pudasaini	Working to provide the solution for the social problem with the help of electronics / IoT systems.	+9779851225654 www.dronesnepal.com
2	**Real Time Solution**	Er. Saroj Dhoj Joshi	Real Time Solutions Pvt. Ltd. is a company committed to offering turnkey solutions to real-world issues. Engineers, technicians, marketing specialists, and management staff are involved in the accumulation of various expertise under one roof, as well as understanding the business requirements of firms in developing nations and giving unique solutions to their challenges. Inventor of the Electroncs Q system, flood forecasting, weather stations, pollution monitoring, and water quality initiatives in South Asia.	saroj@rts.com.np +9779851076012 https://rts.com.np/

3	**National Innovation Center**	Mr. Mahabir Pun	All type of innovation and research to provide the solution to address the social problems. Currently working in the field of medical drone to deliver the medicine in remote/hilly areas with the help of drone.	mahabir@nicnepal.org +9779841592361 https://nicnepal.org/
4	**Computer Engineer, Department of Immigration, Government of Nepal**	Er. Pramod Sharma	Working to formulate policies in numerous sub-sectors of information technology, such as software, hardware, networking, database, and communication, establish an execution plan for these policies, and monitor them.	itspramod799@gmail.com +9779849141735
5.	**Freelance Researcher**	Professor. Ashutosh Shukla	Professor Ashutosh Shukla is an agriculturalist who specializes in inter-disciplinary topics such as hydrology, water policy, geopolitical economy, and climate change. His analytical ability is profound, and he has participated in a number of studies. Formerly an academic and researcher on a full-time basis, he currently works as a	shuklaashutosh1962@gmail.com

			freelancer for a number of research institutes.	
6	**Researcher/ Professor and Vice Principal Himalayan White House**	Alka Sapkota	Dr. Alka Sapkota is an expert in solid waste management and environmental science. She is a consultant for Nepal's Ministry of Urban Development and vice principal of Himalayan Engineering College. Her professional competencies include municipal solid waste management, climate change, and sustainability. She has been professionally active for almost fifteen years.	+9779851173714 alka.sapkota@gmail.com

7. Conclusion

INepal Engineering College has made a significant contribution to the "Bhutan Nepal Higher Education for Sustainable Development Goals (B+NESDG)" Erasmus+ Capacity Building project through its collaboration with a network of renowned universities from

various nations. Through this cooperative endeavour, which was co-funded by the European Union, ***nec*** has been able to participate in Work Package 4 activities actively, assuming critical obligations that advocate for sustainable development and improved quality of education. ***nec*** has exhibited its dedication to promoting a comprehensive approach to higher education by approving course modules for Sustainable Development (SD) and Sustainable Development Goals (SDG) and implementing the Problem-Based Learning (PBL) pilot initiative. Furthermore, the commitment exhibited by stakeholders towards ensuring the long-term viability of the project serves to strengthen our shared objective of improving educational benchmarks and overall quality of life in Nepal and Bhutan. We eagerly anticipate the lasting positive effects and consequential results of our ongoing engagement in this momentous endeavour.