



Nepal Engineers' Association Talk Program

"Innovative Green Construction Material"

By **Er. Krishna Bhakta Duwal**

Ph.D. Scholar, Wuhan University of Technology, China
M.Sc. in Renewable Energy Engineering, IoE Pulchowk, T.U. Nepal

CEO, Gorkha Eco Panel

Date & Time: 15-Feb-2019 (२०७५ फागुन ३ गते); Friday, 4:00 PM

Venue: Engineer Bhawan, Pulchowk, Lalitpur

Nepal Engineers' Association (NEA)

Pulchowk, Lalitpur, GPO No. 604, Kathmandu, Nepal

Phone: +977-1-5010251 / 5010252; Fax: +977-1-5010253

Email: info@neanepal.org.np

Website: www.neanepal.org.np

Innovative Green Construction Material



Our Products



Gorkha
permeable
paver

INTERNATIONAL GREEN DEVELOPERS NEPAL PVT.LTD



- Established in 2014
 - Joint venture with Al Khajah Est. & Factories W.L.L., Bahrain
- Factory Location-
Jagati, Bhaktapur
- Annual production capacity: 5,00,000 Sq. meters
 - Manufactures Gorkha Eco Panel

What is Gorkha Eco panel ?



Advantages/Benefits

1. Thermal and Economic



EARTHQUAKE RESISTANT



SOUND INSULATION



WATER RESISTANT



TIME SAVING



COST SAVING



Fire Resistant



TERMITE RESISTANT



CARPET AREA SAVING



EASY TO INSTALL

Thermal conductivity comparison

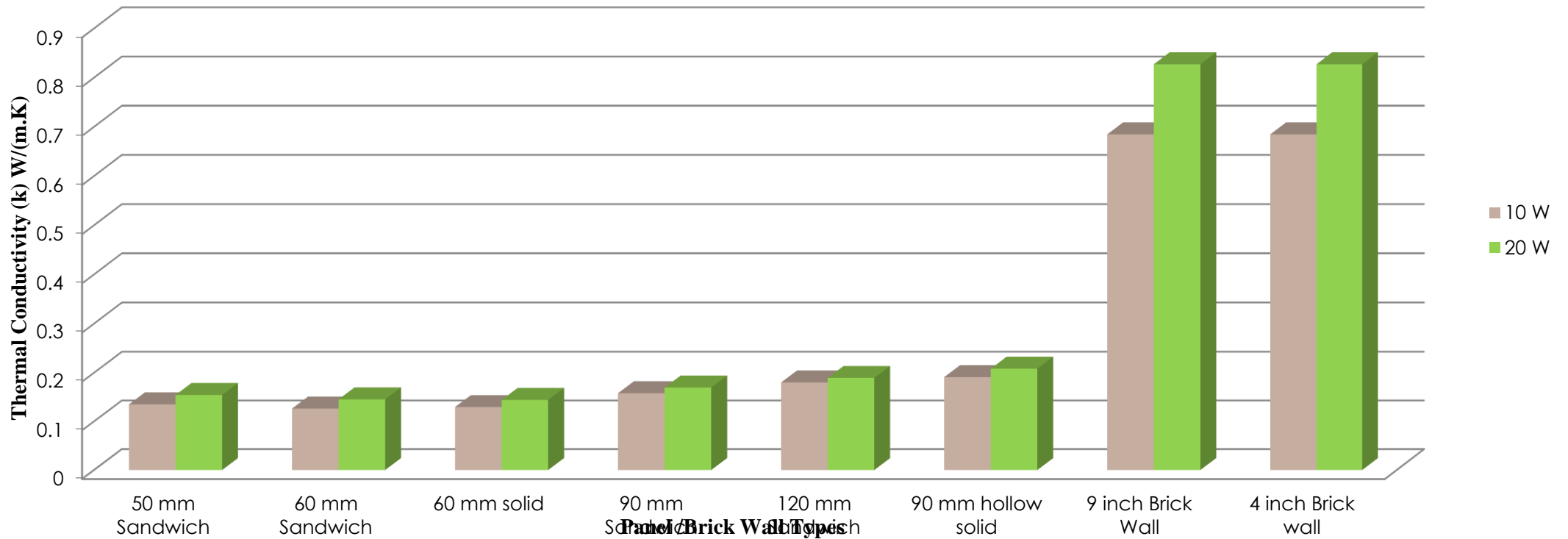
Temperature	GEP –90mm	Brick- 4 inch wall
10 – 20 deg Celsius	0.15 W/ (m K)	0.6 W/ (m K)

Source: Thermal behavior Study of EPS based Cement Panel and Its comparison to common Brick, Er. Surya M.Koju, IoE, TU

1. Thermal Behavior Study of EPS based Cement Panel and Its Comparison to Common Brick, Er. Surya Man Koju,

ioe,TU.

Comparison of Thermal Conductivity (k) EPS based Cement Panel and Common Brick Wall



Earthquake Resistance

CONCLUSION

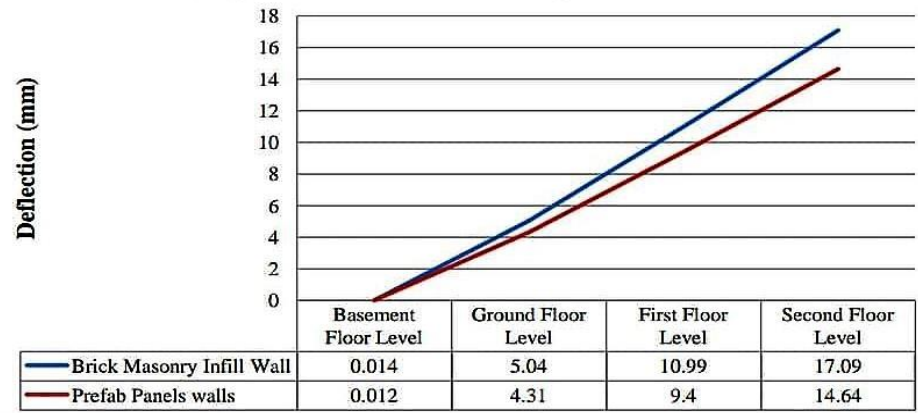
5.1 Conclusion

The research work is conducted to find out the analytical and laboratory comparison between the traditional brick elements and prefabricated sandwich panels. The response of the buildings in terms of seismic weight, base shear, deflections, compressive strength and economic analysis is carried out.

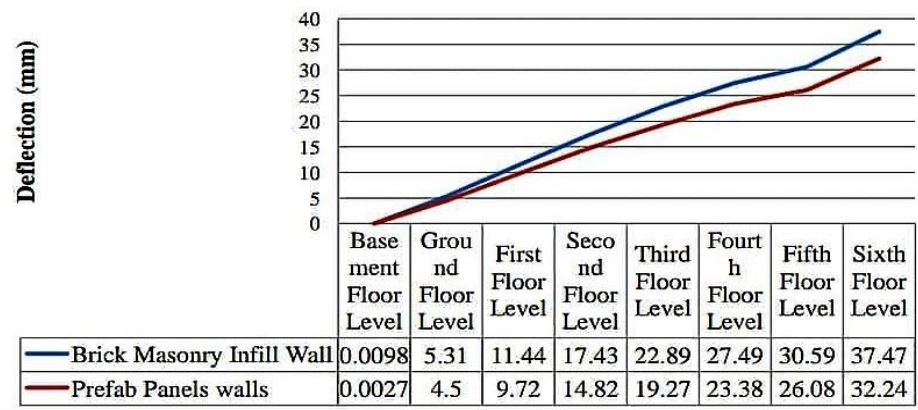
After processing and carefully analyzing the numerical data obtained from analysis of aforementioned models and laboratory testing, following major conclusions can be drawn.

1. A lightweight prefabricated panel can be an option to replace the traditional brick masonry wall.
2. The seismic weight and base shear of the building is reduced by the use of the prefabricated sandwich panel.
3. The buildings built with the use of prefabricated sandwich panels show less deformation in earthquake than the building built with the use of traditional brick elements.
4. From the laboratory testing, it is found that the compressive strength of the brick element is more than that of prefabricated sandwich panels. The density of brick element is three times higher than that of the prefabricated sandwich panels.
5. The use of prefabricated panels is ineffective with respect to monetary value in the residential buildings while it is more cost effective in the high rise buildings as the cost of the building is reduced by 5 to 6 % of the total building cost only due to the reduction in the reinforcement to be used in the buildings.

Change in Deflection of Building in X- Direction



Change in Deflection of Building in Y- Direction



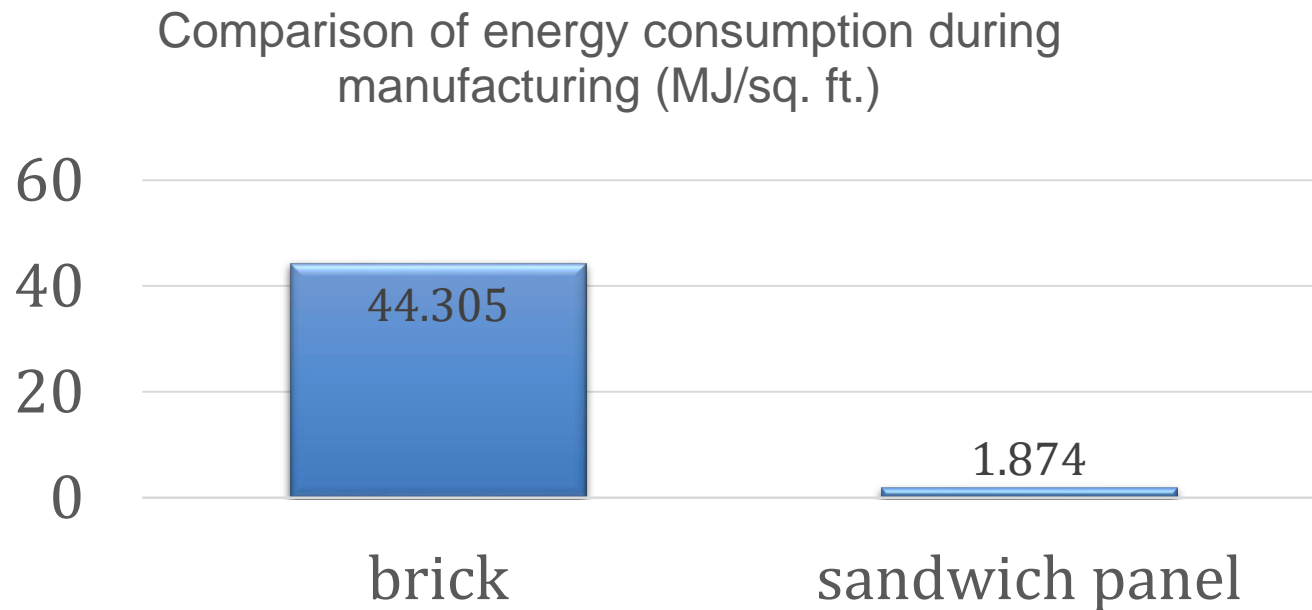
Source: Comparison of lightweight prefabricated Panels with Brick Masonry in Kathmandu Valley, Er. Rajesh Tyata, MSc Engg, HIST, PU

2. Social



3. Energy Saving

1. Energy Saving during production
2. Energy saving due to the **space heating and space cooling – thermal properties**



Source: Comparative study of energy consumption pattern of brick and lightweight cement based sandwich panel, 'A case study on energy consumption"- Sandhya Thapa, M.Sc. Env.Science, Khwopa College, TU

4. Environmental benefits

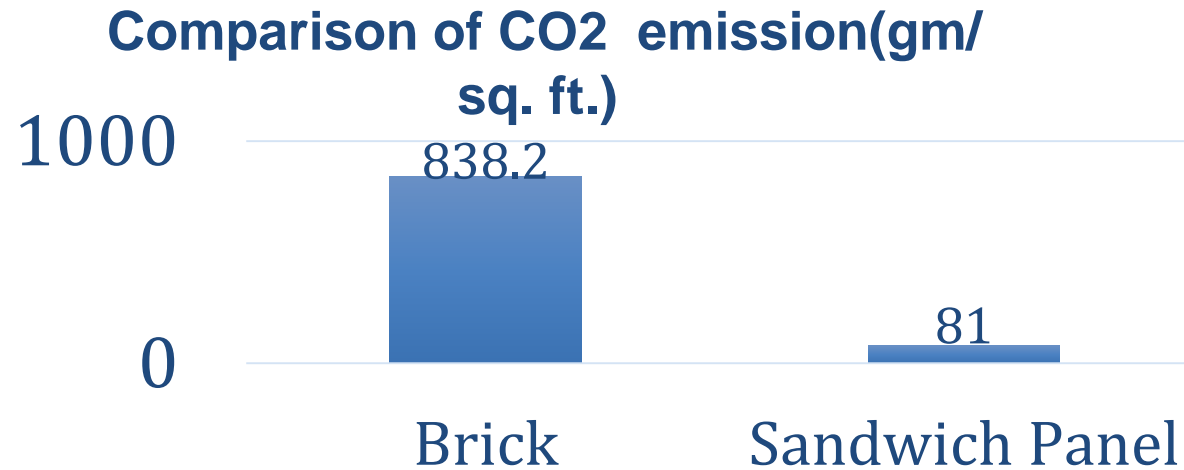


Negligible Carbon Emission



Conventional Brick kiln

- Less wastage during the production process
- Conservation of **cultivable land**
- **Recycle**
- **Expandable Polystyrene** – 5%
- Industrial **glass fiber** wastage



GOOD THERMAL

ASBESTOS
FREE

NON-ASBESTOS



RE-USABLE

Source: Comparative study of energy consumption pattern of brick and lightweight cement based sandwich panel, 'A case study on energy consumption"- Sandhya Thapa, M.Sc. Env.Science, Khwopa College, TU

GEP VS other materials



STONE MASONRY (2400 Kg/m³)



AAC Blocks (850 Kg/m³)

DENSITY COMPARISON



BRICK MASONRY (1900 Kg/m³)



GORKHA ECO PANEL (650 Kg/m³)

Source: Comparison of lightweight prefabricated Panels with Brick Masonry in Kathmandu Valley, Er. Rajesh Tyata, MSc Engg, HNST, PU

Research Activities

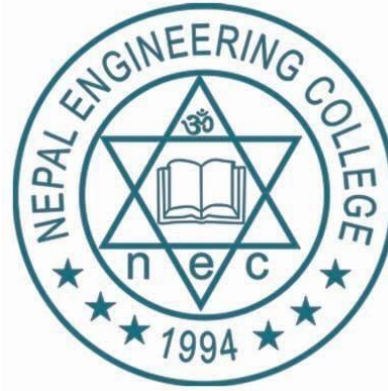
Completed Researches

Research Title	Author/s	Degree	Institute/s	University
Thermal Behavior Study of EPS based Cement Panel and Its Comparison to Common Brick	Er. Surya M. Koju	M.Sc. Engineering	Institute Of Engineering	T.U.
Comparison of lightweight prefabricated Panels with Brick Masonry in Kathmandu Valley	Er. Rajesh Tyata	M.Sc. Engineering	Himlayan Institute of Science and Technology	Purbanchal University
Comparative study of energy consumption pattern of brick and lightweight cement based sandwich panel, “A case study on energy consumption”	Sandhya Thapa	M.Sc. Environmental Science	Khwopa College,	T.U.

Ongoing Researches

Study of flexible joint for prefabricated panels using FEM code with hyperelastic models.	Prof., Dr., Arkadiusz Kwiecien Er. Surya M. Koju Er. Krishna B. Duwal		1. Cracow University of Technology 2. International Green Developers Nepal	
Life Cycle Assessment of EPS based cement panel and brick masonry.	Dikshya Dhakal	B.E. Environment	Kathmandu University	K.U.
Study of EPS based lightweight concrete bricks.	Sadikshya Shrestha	M.Sc. Engineering	Institute Of Engineering	T.U.

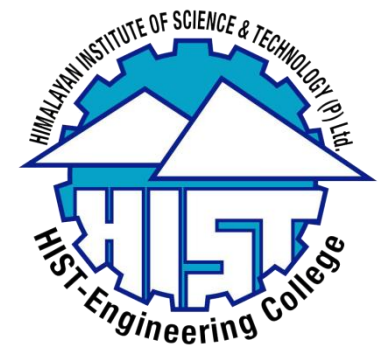
(MoU) Memorandum of Understanding



Tribhuvan University
Institute of Engineering



Cracow University
of Technology



GEP Installation



भक्तपुर जिल्ला

How to install in single storey with more height?



- Installation of metal banding (horizontal) at height of 7'6"
- Installing Panels as shown in photo.

Ghurmi, Chitwan

चितवन जिल्ला



Day 1: Civil Work



Day 2: Metal Post Erection



Day 3 and Day 4: Metal Structure & Truss Erection



Day 5: Roofing



Day 6: Roofing and Truss enclosure



Day 7,8 &9: Gorkha Eco Panel Installation



Day 10 & 11: Aluminium Doors & Windows fixation



Day 12 to 20: Wall finishings and Site clearance



Day 21: Project Completion and Handover

How fast it can be constructed ?

Some completed Projects

Multi storey-ed buildings



Nepal Idol

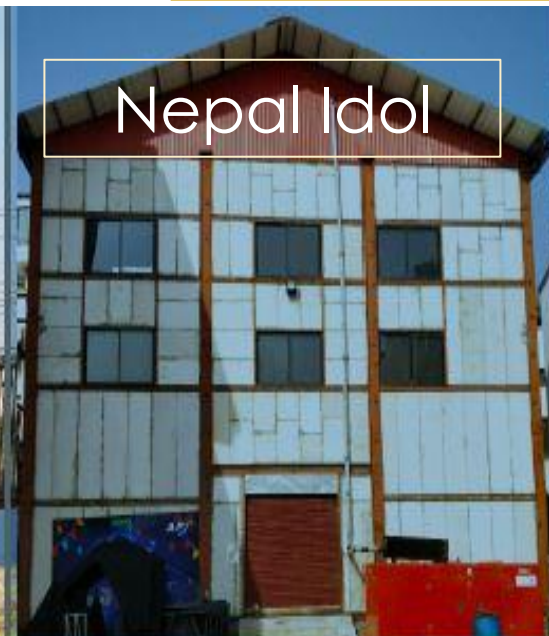


Image Channel



Kikampa Montessori



Makwanpur, Health Post

मकवानपुर जिल्ला



मुस्ताङ जिल्ला

Rural Municipality Buildings

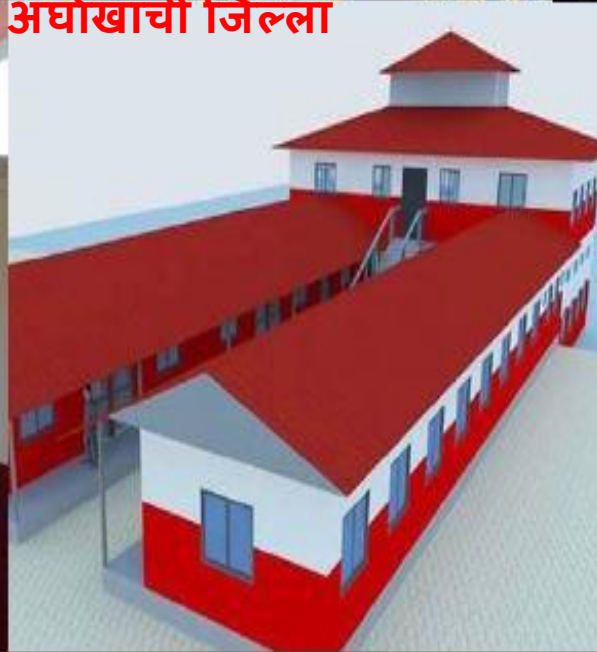
धादिङ जिल्ला



कास्की जिल्ला



अर्घाखाँची जिल्ला



मकवानपुर जिल्ला



RCC buildings



बाँके जिल्ला



कास्की जिल्ला



ईन्जिनियरहरुको पहिलो रोजाई



Presidents Office,



Ward no 4 office building,



धादिङ जिल्ला



कार्यालय
नगरिन्द्र
समावेश
समावेश
समावेश
प्रतिमालय
कारिक सल्ला सल
पालकलन शाखा
दर्ता घल्लादी

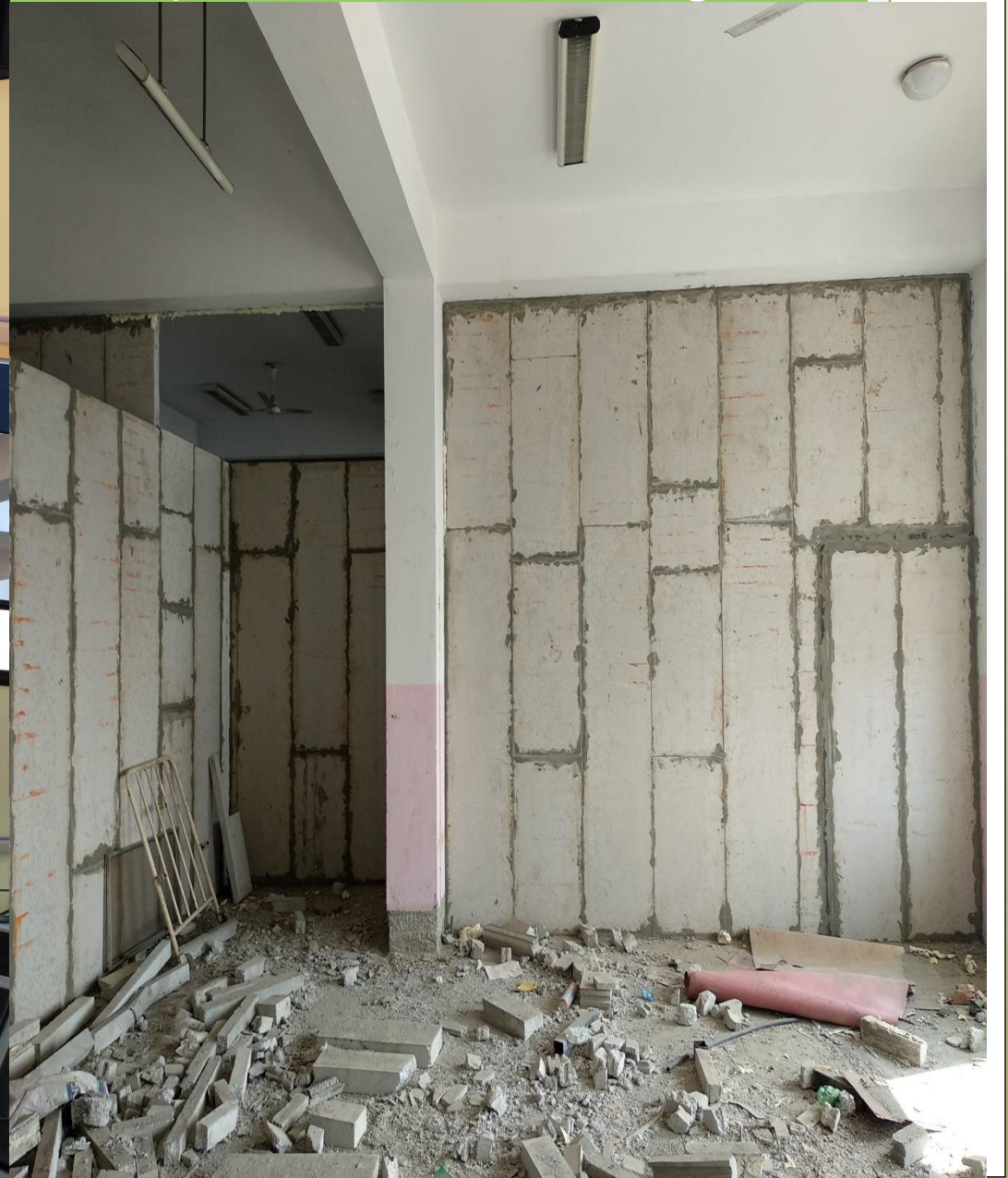
Himali Project





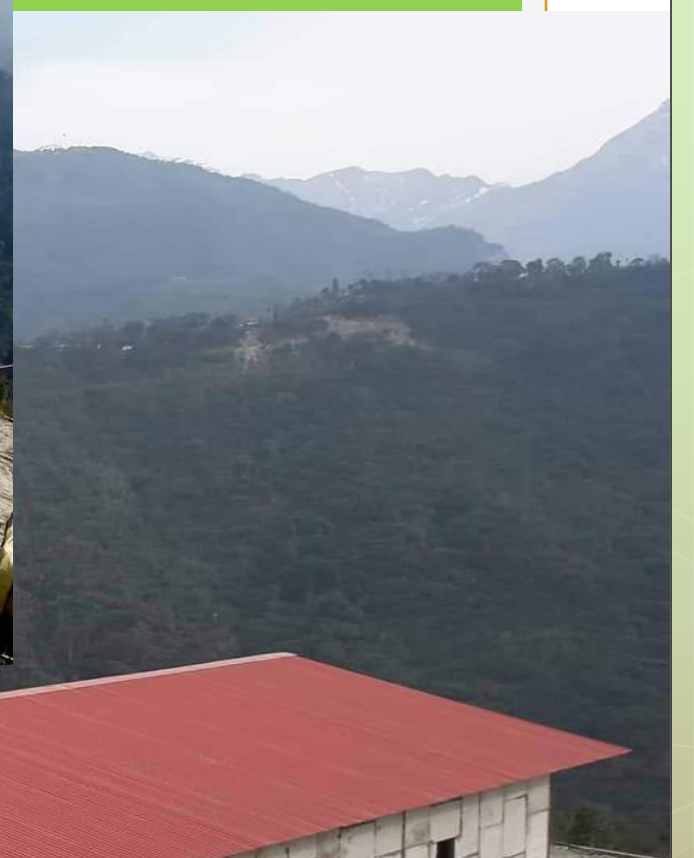
- चर्म तथा यौन रोग वार्ड (Dermatology Ward)
- दन्त रोग वार्ड (Dental Ward)
- आँखा/ नाक, कान, घाँटी वार्ड (Eye/ENT Ward)-B





संखुवासभा जिल्ला

Arun III HPP



Hotel sarovar , Pokhara

कास्की जिल्ला



Nepal Engineer's Association



Lift enclosure

Army Camp, Jhule & Dhorpatan



सिन्धुपाल्चोक जिल्ला

Conscious Connection ,



School buildings



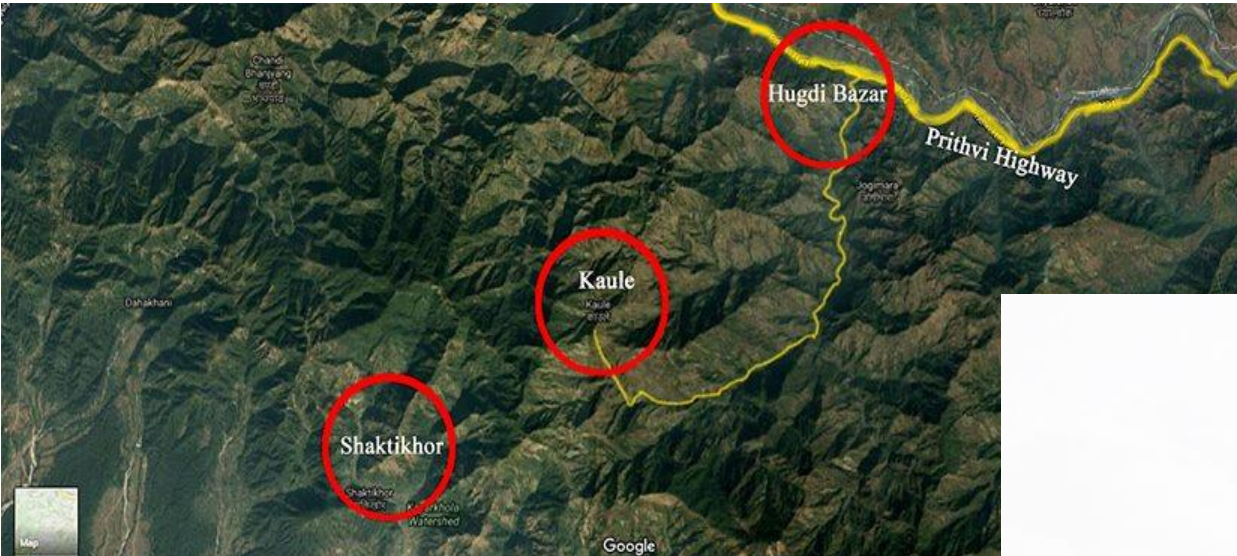
Karuna Foundation, Nagarkot

दाङ जिल्ला



Parijaat School, Dang

School buildings



Shree Jana Jeewan School,
Chitwan

चितवन जिल्ला



Commercial Buildings



मुस्ताङ जिल्ला



Approval for School Reconstruction

केन्द्रीय आयोजना कार्यान्वयन इकाई
गानेश्वर, काठमाण्डौ

पत्र संख्या:-०७३/०७४
पलानी नं.:-

- इयाल ढोकाको चौकोस तथा खापा स्थानिय काठको सस्तो पर्ने भएमा सो प्रयोग गर्न सकिने । काठको चौकोस साइज कमिमा 3"x4" को हुनुपर्ने तथा खापाको साइज कमिमा १.२५" x 3" हुनुपर्ने । खापा रेडिमेड वाटर पुफ सोलिड कोर अथवा कमिमा १२ मी मी बाक्लो वाटर पुफ प्लाइउड लागाउन सकिने ।
- इयालमा काठको चौकोस प्रयोग गर्ने भएमा फलामे गीलको सट्टा १२ मी मी व्यासको Burglar bar सिधै चौकोसमा जडान गर्न सकिने ।
- बाहिरो गारोमा डि.पि.सी भन्दा माथि सिमेन्ट प्लास्टर नगरी सिमेन्ट टिप्कार गर्ने र भित्री गारोमा मात्र सिमेन्ट प्लास्टर गर्ने ।
- फल्स सिलिङ्ग राख्दा कक्षाकोठा भित्र मात्र राख्ने, फल्स सिलिङ्ग नराख्ने भएमा १ मी मी मोटाइको ल्यामिनेटेड स्टिल पाता प्रयोग गर्न सकिने ।
- इटाको गारोको सट्टा ढुङ्गाको गारो भएको २ कोठे डिजाइन प्रयोग गर्न सकिने ।
- ४ कोठे र ८ कोठे भवनको माथिल्लो तल्लामा RCC छानाको सट्टा Steel Truss र CGI Sheet भएको Design Drawing प्रयोग गर्न सकिने ।
- Rebar को हिसाव गर्दा RCC को कन्क्रिटको परिमाणको १२० के. जि. प्रति घनमिटर देखि १४० के. जि. प्रति घनमिटर राख्ने ।
- जग्गा पानी पस्न नदिन हल्का किसिमको Apron बनाउने, Apron मा सोलिडमाथि २"-३" Pcc (१:२:४) ढलान गर्ने ।
- सिमेन्ट जोडाइमा इटा /ढुङ्गाको गारोको सट्टा Sill Level भन्दा माथि विकल्पको रूपमा Pre-fab Solid Panel (Gorkha Eco Panel को ९०७५ मी मी बाक्लो EPS and Cement-based Light Weight Sand wich Panel with 4.5 mm th. Calcium Silicate board as faceboard अथवा ७५ मी मी बाक्लो Everest Cement Board को सोलिड प्यानल) अथवा त्यस्तै प्रकृतिका अन्य सामग्रीको हकमा केन्द्रिय आयोजना कार्यान्वयन इकाईबाट स्वीकृत गराई प्रयोग गर्न सकिने ।

इमनारायण श्रेष्ठ
आयोजना निर्देशक

पुनश्च बैकल्पिक डिजाइन यस केन्द्रिय अयोजना कार्यान्वयन इकाईको वेबसाइट moepiu.gov.np मा राखिएको छ ।

विद्यालय सरकार
शिक्षा मन्त्रालय
शिक्षा विभाग
योजना तथा अनुसन्धान-अहाराखा
सिंहदरवार, काठमाण्डौ

पत्र संख्या :- २०७३/०७४
पलानी नं. :- ०२

कानोढी, भक्तपुर
मिति:-२०७४/०१/१९

विषय: विद्यालय मर्मत गर्ने सम्बन्धमा निर्देशन ।

श्री विन्सा शिक्षा कार्यालय
संखुवासभा, भोजपुर, धनकुटा, सोलुखुम्बु, खोटाङ, मोखलढुङ्गा, सिन्धुली, रामेछाप, दोलखा, सिन्धुपाल्चोक, रसुवा, धादिङ, नुवाकोट, काठमाण्डौ, ललितपुर, भक्तपुर, काभ्रेपलान्चोक, मकवानपुर, चितवन, नवलपरासी, अर्घाखाँची, पान्था, मुन्डी, स्याङ्जा, तनहुँ, गोरखा, सप्तगढ, पर्वत, बागलुङ र म्याग्दी ।

शिक्षा मन्त्रालयको च.नं. १९९ मिति २०७३/१२/२२ को पत्रसाथ प्राप्त Truss प्रयोग गरी बनेका विद्यालय ब्लक मर्मतका लागि छनोट गर्ने मापदण्डहरू र अनुदान परिचालनका आधारहरूका सम्बन्धमा वरीचय जिल्लाहरूबाट थप निर्देशन माग भै आएकोमा उक्त पत्रसाथ संलग्न आधार र मापदण्डका आधारमा विद्यालय छनोट भै सकेपछि पनि बजेट/कोटा बाँकी रहेमा देहायका मापदण्डलाई आधार मानी बजेट परिचालन गर्ने व्यवस्था भिन्साउनु हुन अनुरोध छ ।

तपसिल

- बिगतमा हिमाली/पहाडी क्षेत्रमा साविक बमोजिमको नर्सु अनुसार Wooden Truss प्रयोग गरी बनेका तथा प्राविधिक प्रतिवेदनको आधारमा मर्मत पश्चात पूर्ण प्रयोग योग्य हुने अवस्थामा आउने सुनिश्चिता भएका ब्लकहरूमा अन्य Truss का लागि तोकिएको अनुदान परिचालनका आधारहरू बमोजिम गर्ने सकिने ।
- अन्य सरकारी वा गैरसरकारी संघ संस्था वा CLPIU बाट विद्यालय भवन निर्माण/मर्मतका लागि छनोटमा परेको तर हाल सम्म पनि निर्माण कार्य आरम्भ हुन नसकेका विद्यालयको हकमा पठन पाठनमा बाधा परेको भए त्यस्ता विद्यालय परिचालन भएका Truss block मध्ये तत्काल वा निस्कट भविष्यमै भत्काउनु नपर्ने भनि यकिन भएको ब्लक मर्मत गरी प्रयोगमा ल्याउन सकिने ।
- Truss बाट बनेका ब्लकहरूमा वितरण गरेर पनि बजेट बाँकी रहेमा वा कोटा सपत नभएमा साविकको अनुदान परिचालनका आधारहरू बमोजिम भूकम्पबाट क्षति भएकै भएन भएमा मर्मतका लागि प्राविधिकको सागत अनुमानको आधारमा प्रति भवन अधिकतम रु.१,६०,०००/- मा नबढ्ने गरी मर्मत कोटा उपलब्ध गराउन सकिने ।

दीपक शर्मा
निर्देशक

विद्यालय सरकार
शिक्षा मन्त्रालय
शिक्षा विभाग
योजना तथा अनुसन्धान-अहाराखा
सिंहदरवार, काठमाण्डौ

Truss मा बनेका विद्यालय ब्लक मर्मतका लागि छनोट गर्ने मापदण्डहरू

१	विद्यार्थी संख्या प्रतिबन्ध राख्दै औपलभ्यता वढी भएका विद्यालय
२	विभिन्न समयमा Steel Truss बाट बनेका ब्लकहरू भएको जुन भूकम्पका कारण पूर्ण, अधिका, वा अतीका क्षति भएका विद्यालय
३	अन्य सरकारी वा गैरसरकारी संघ संस्था वा CLPIU बाट विद्यालय भवन निर्माण/मर्मतका लागि छनोटमा नपरेका विद्यालय
४	JICA लगायत अन्य संस्थाबाट ब्लक मर्मतका लागि छनोटमा नपरेका विद्यालयहरू
५	विद्यार्थी संख्या प्रतिबन्ध राख्दै औपलभ्यता वढी भएका विद्यालय

Truss मा बनेका विद्यालय ब्लक मर्मतका लागि छनोट गर्ने मापदण्डहरू र अनुदान परिचालनका आधारहरू

१	ढुङ्गा माटोको पर्खाल भएकै भएकै भूकम्पका कारण पूर्ण क्षति भई भूकम्पमा पछिल्लो भत्कार बनाउनु पर्ने अवस्थामा भएका Steel Truss बाट बनेका ब्लकहरू जसमा OPC भन्दामाथि RCC Bands (OPC, Steel and Lintel) र Stitches मिलाएर इटा सिमेन्ट वा ढुङ्गा सिमेन्टको पर्खाल निर्माण गर्ने र कक्षा कोठामा False Ceiling निर्माण गर्नेका लागि प्रति ब्लक अधिकतम रु.८,००,०००/-
२	भूकम्पका कारण पूर्ण पर्खाल लडेका, चर्क्याक, सजाल्या क्षति पुगेका जोडिममा रहेको ढुङ्गा माटोको पर्खाल Sill Level भन्दामाथिको आगामाव भत्कार हुल्का सामग्रीहरू जस्तै Pre-Fab solid Panel (Gorkha ecopanel 90mm or Everest solid panel 75mm or Eps with both side Gabion wire shotcreted wall) अथवा RCC Steel band सहितको ferro-cement wall र कक्षा कोठामा false ceiling बनाउनका लागि प्रति ब्लक अधिकतम रु. ५६,०००/-
३	तोकिएको मापदण्डका आधारमा Truss बाट बनेका ब्लकहरूमा वितरण गरेर पनि बजेट बाँकी रहेमा शिक्षा विभागको पूर्व स्वीकृतिमिलित दिइएको निर्देशनानुसार मात्र बजेट परिचालन गर्ने ।

दीपक शर्मा
निर्देशक



नेपालमै पहिलोपल्ट जर्मन प्रविधिबाट उत्पादित
भूकम्प प्रतिरोधात्मक इको प्यानल



“

I was looking for fast ways to build my health post. When I stumbled upon Gorkha Eco Panel, I found out that the panels, apart from its swift fabrication, were light weight, eco friendly, earthquake resistant, thermal and sound insulating and easy to construct.

Gorkha Eco Panel seemed perfect to build my health post at Kailash Rural Municipality, Makwanpur.

**BEST
PERFECT
WALL MATERIAL**

”

Shrinkhala

AR. SHRINKHALA KHATIWADA
Miss Nepal World 2018

FB: fb.com/Gorkhaecopanel www.gorkhaecopanel.com youtube: Gorkhaecopanel



Subsidiary of गोर्खा इको प्यानल



QUALITY MAT NO COMPROMISE



Kinbon

Certified ISO9001, ISO14001, GB/T28001-2001, AMAA from America

अब नेपालमै विश्व प्रसिद्ध
Kinbonका ISO मान्यता प्राप्त uPVC का प्रोफाइलहरू

For More Inquiries

**An Exclusive Distributor
for Nepal**

Gorkha Precast and Windor Pvt. Ltd.
01 620 1626 (Changu Road, Jhaukhei, Bhaktapur, Nepal)
01 663 2698 (Corporate Office: Araniko Highway, Madhyapur Thimi,
Bhaktapur, Nepal)

www.GorkhaWindor.com



**GORKHA
WINDOR**
Subsidiary of गोरखा इको प्लासट





WHY GORKHA WINDOR ?

- World Class uPVC profile & hardware
- Free Counselling
- Initial site survey, design and quote
- 25 years guarantee on profile colours
- 2 years guarantee on hardware

OUR PRODUCT RANGE

Offering a variety of window and door profile

Casement Windows

- 60 mm Casement Window Series

Sliding Windows

- 60 mm Sliding Window Series
- 88 mm Sliding Window Series

Front & Back Doors

- 60 mm Casement Door Series
- 60 mm Casement Door A Series

Sliding Doors

- 60 mm Sliding Door Series
- 88 mm Sliding Door Series

French Doors

Patio Doors

Bi-folding Doors

WE BUILD BUSINESSES

Not just another design & marketing firm - our speciality is realizing our clients goals and making their businesses a success.



PRODUCT COMPARISON

PROPERTIES	STEEL	ALUMINIUM	WOOD	uPVC
maintenance	Painting	Powder coating	Painting/ Polishing	No painting needed
Installation	Poor	Fair	Fair	Easy & Excellent
Durability	Fair	Fair	Warpage/ Shrinkage	Excellent
Sound	Poor	Poor	Poor	Sound Proof
Cost	Fair	Fair	Expensive	Affordable in Long term
Strength	Good	Fair	Good	Reinforcement available due to multi chamber
Safety	Good	Fair	Poor	Excellent
Aesthetics	Poor	Poor	Good	Excellent
Chemical Resistance	Corrodes	Corrodes	Rots	No Effect
Thermal Conductivity	High	High	Fair	Zero Conductivity

ADVANTAGES of uPVC (unplasticized PolyVinyl Chloride)



Weather Proof



Termite Proof



Corrosion Proof



Fire Resistant



Water Resistant



Ageing Resistant



Zero Maintenance



Energy Efficient



Environment
Friendly



Light Weight



Architect Delight



Sound Insulation

uPVC Doors & Windows

GORKHA
WINDOR
Subsidiary of गोर्खा इको प्यानल



Value Proposition

- Do not let outside heat in (in summer) or inside heat out (in winter) , provide comfort & save 20-25% Power bill – **Ideal for Indian Residential Sector**
- Provide sound & dust insulation – **Ideal for Schools, Hospitals, Community Centres, Hotels, Offices, etc.**
- Prevent water ingress, no pitting, do not Swell - **Ideal for Rainy and Coastal locations**
- Do not rust, crack, rot, chip, peel, flake, warp, fade and termite proof
- Durable, need no painting required - **Minimum Maintenance**
- Stylish & Elegant, available in all shapes and sizes – **even the old buildings start looking new**
- Secured due to Safety locking arrangements and steel reinforcement



Numerous Tangible & Intangible advantages.....

PVC Windows - Contribution to Energy & Environment Conservation

Life Cycle Stage	Energy Consumption (kWh)		
	PVC	Aluminum	Wood
Extraction & Production of Profiles	253.6	1981.1	74.5
Transport to Assembly, building & disposal site	11.7	14.4	7.5
Assembly of Window	4.8	4.8	4.8
Usage (50 Years)	1427.4	2194.5	1906.8
Recycling	82.5	217.8	47.9
Total	1780.0	4412.6	2041.5

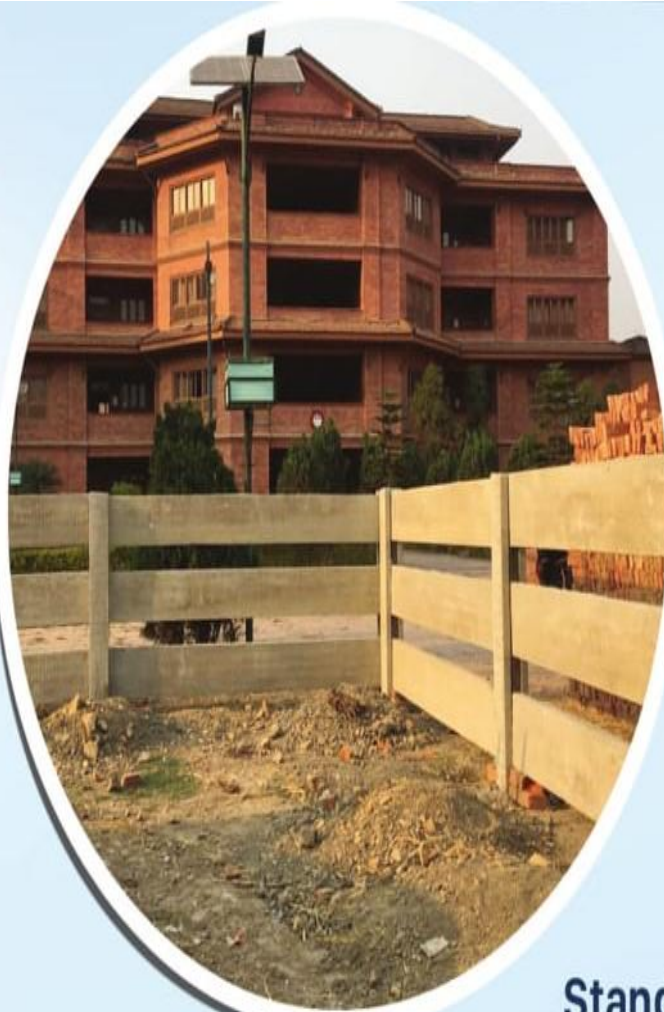
CO ₂ Emission (Kg)		
PVC	Aluminum	Wood
77.6	867.9	22.2
3.0	3.9	2.1
2.1	2.1	2.1
632.1	971.8	844.4
26.7	89.7	14.4
741.5	1935.4	885.2

Note - PVC Window considered for calculation measuring 1.34 meter X 1.34 meter with double glazed two panes of normal glass 4mm thick with air cavity of 12 mm.

Aluminum Window considered for calculation measuring 1.34 meter X 1.34 meter with double glazed two panes of normal glass 4mm thick with air cavity of 6 mm.

Reference - "Estimate of energy consumption and CO₂ emission associated with the production, use and final disposal of PVC, HDPE, PP, ductile iron and concrete pipes" by Department de Projectes de Enginyeria, Universitat Polytechnica de Catalunya, Barcelona.





Precast Panel (Floor Slab and Boundary Wall) Precast Panel is a hollow panel made up of a M25 Concrete (cement, Sand, 10 down aggregate) and 4.5mm pre-tensile steel for 50 mm precast panel and H-Beam and 7mm high tensile steel (Pre-tensile steel).

Standard specification is provided below.

Features

- Low cost
- Fast to install/ ready to install
- Longer life
- Dimensional accuracy
- Superior quality
- Reuseable
- Aesthetically attractive

1) Dimensions and details of Precast Panel

S.No	Description	Precast Panel Types		
		Boundary Wall Panel	H- Beam	Floor Slab
1	Thickness	50mm (2 inch)	150mm (6 inch)	120mm (5 inch)
2	Weight	10 - 11kg (Per sq.ft)	13 -15kg (per run.ft)	34-36kg (Per sq.ft)
3	Length	Max. 10ft	Max. 12ft	Max. 15ft
4	Usage	Compound Boundary Wall		Flooring



2) Construction Condition

Boundary wall

- Column (H-beam) spacing will be 8ft or can be change according to site condition.
- The panel width will be 1ft and length will be 8ft.
- The height of boundary will be as per requirement of client.
- The height of foundation will be as per soil type and height of wall.

120 mm Hollow core slab

- The width of slab will be 2ft.
- The maximum span (without support) shall be 15ft.



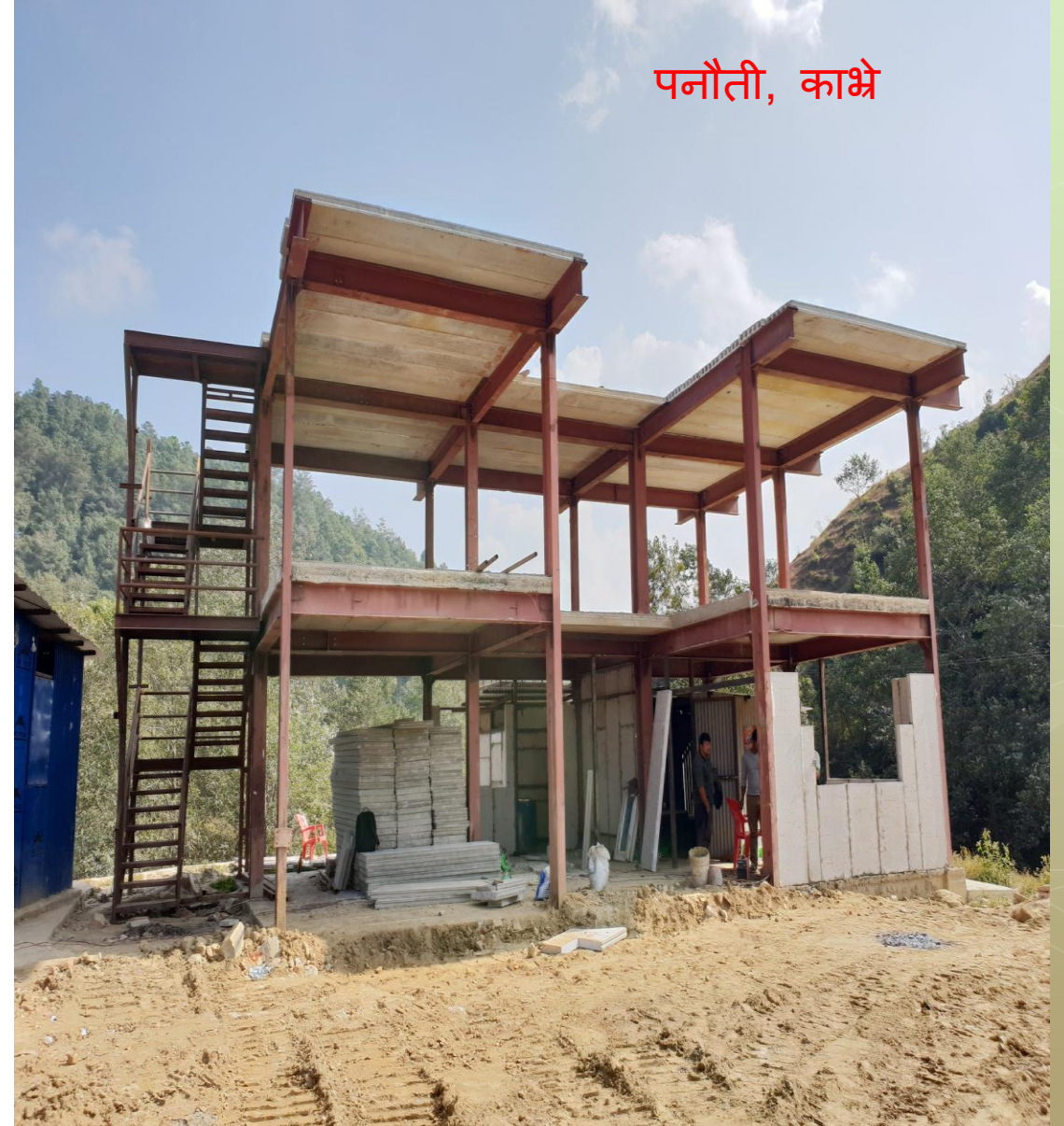
Boundary Wall



Gorkha Precast Slab



Precast Slab



पनौती, काभ्रे

Precast Slab





Gorkha Permeable Paver



SAVE
WATER
SAVE
THE EARTH

Gorkha Permeable Paver

Hexagonal Paver

Gorkha Permeable Pavers are a self-draining system that allows rainwater to percolate directly into the ground, significantly reducing runoff and infiltrate into the underlying soils recharging the groundwater table.

Gorkha Permeable Pavers provide a solid ground surface, strong enough to take light weight vehicles and heavy loads vehicles.

Why are permeable pavers the right choice?

- Natural drainage reduces puddles
- Natural filtration
- Flood prevention
- Reduces the heat island affect
- Natural and sustainable materials

Types

- Gorkha Permeable Pavers
- Gorkha Conventional Pavers



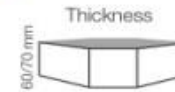
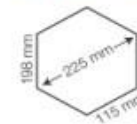
Pattern



Color range



Specifications



Where to be used

Roads | Parking Lots | Garage
Pedestrian | Pathways
Garden Area | Parks | Plaza



a quality product of



Gorkha Precast and Windor Pvt. Ltd.

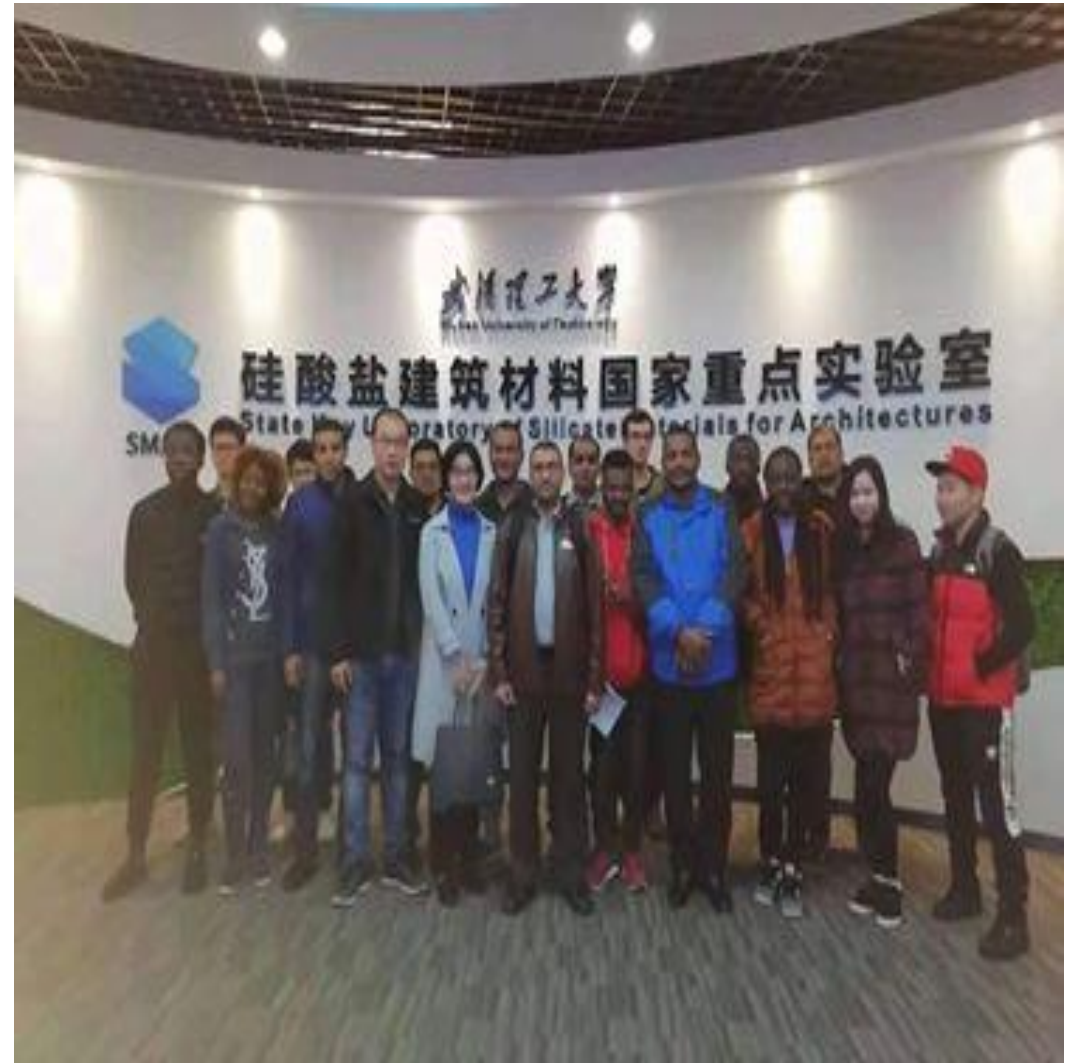
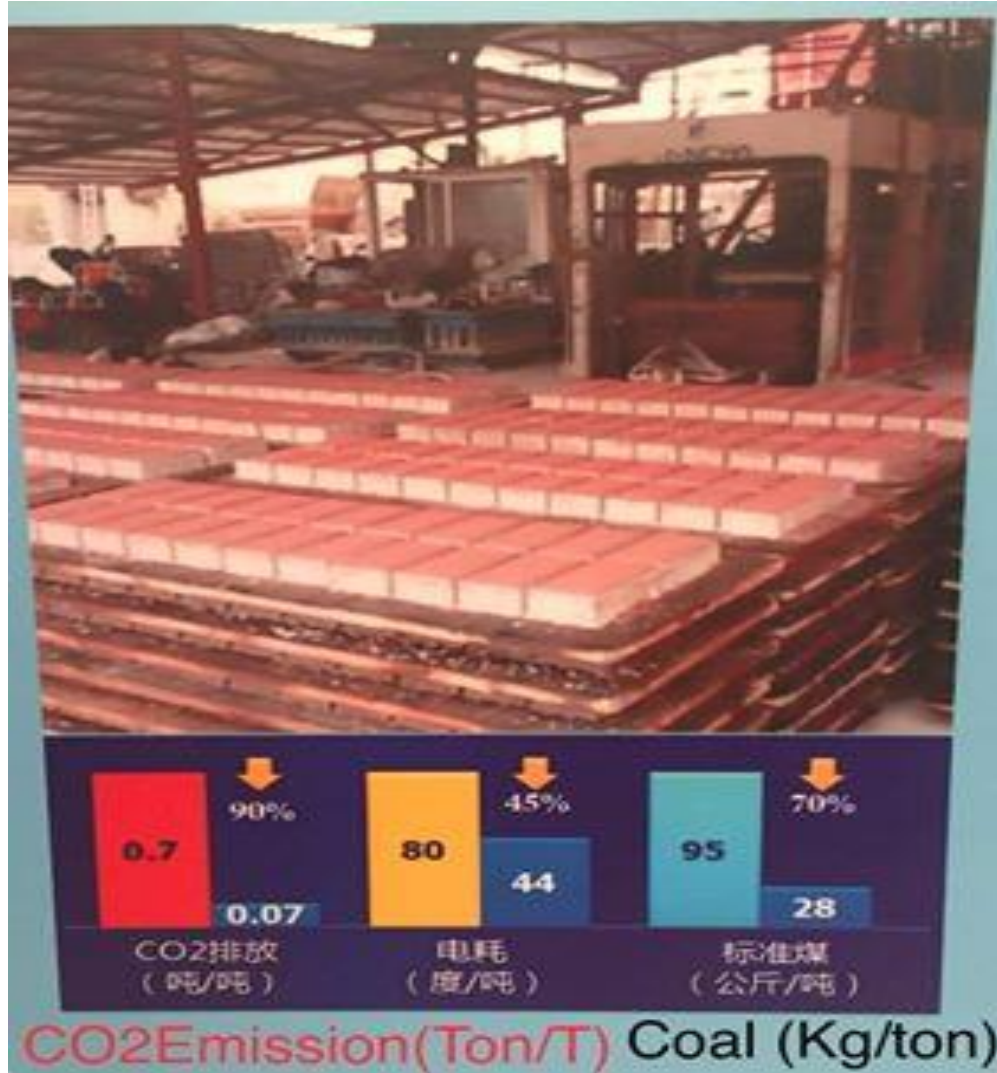
Corporate Office and Showroom:

📍 Araniko Highway, Madhyapur Thimi, Bhaktapur, Nepal
☎ +977.01.663 2698, 620 0736 ✉ info@gorkhaprecast.com
📘 facebook/GorkhaPrecast 🌐 www.GorkhaPrecast.com

Factory

📍 Jhaukhel, Changu Road, Bhaktapur, Nepal
☎ +977.01.620 1626, 980 182 0161, 980 182 1062

Permeable Pavement block study





OTHERS

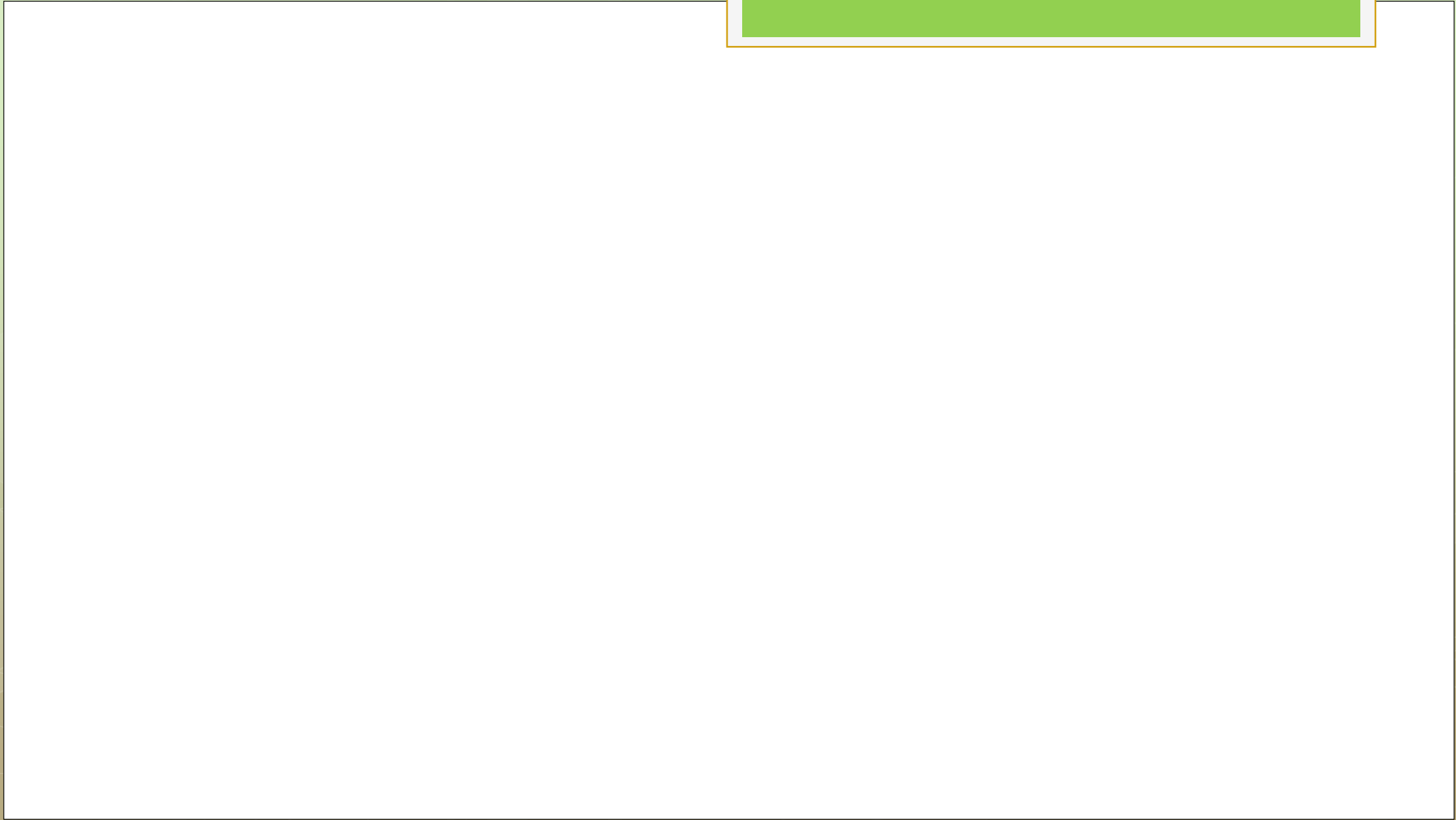
Khwopa engineering college





4th Gorkha Eco Panel MEET 2019







Gorkha Eco pannel Final TVC HD.mp4

THANK YOU



THANK
YOU