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South Asia

Strengthening Problem-Based Learning in South Asian Universities

Working title: Preserving Adobe Architecture



Team Forest

PBL: Nepal Adobe Architecture



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South Asia



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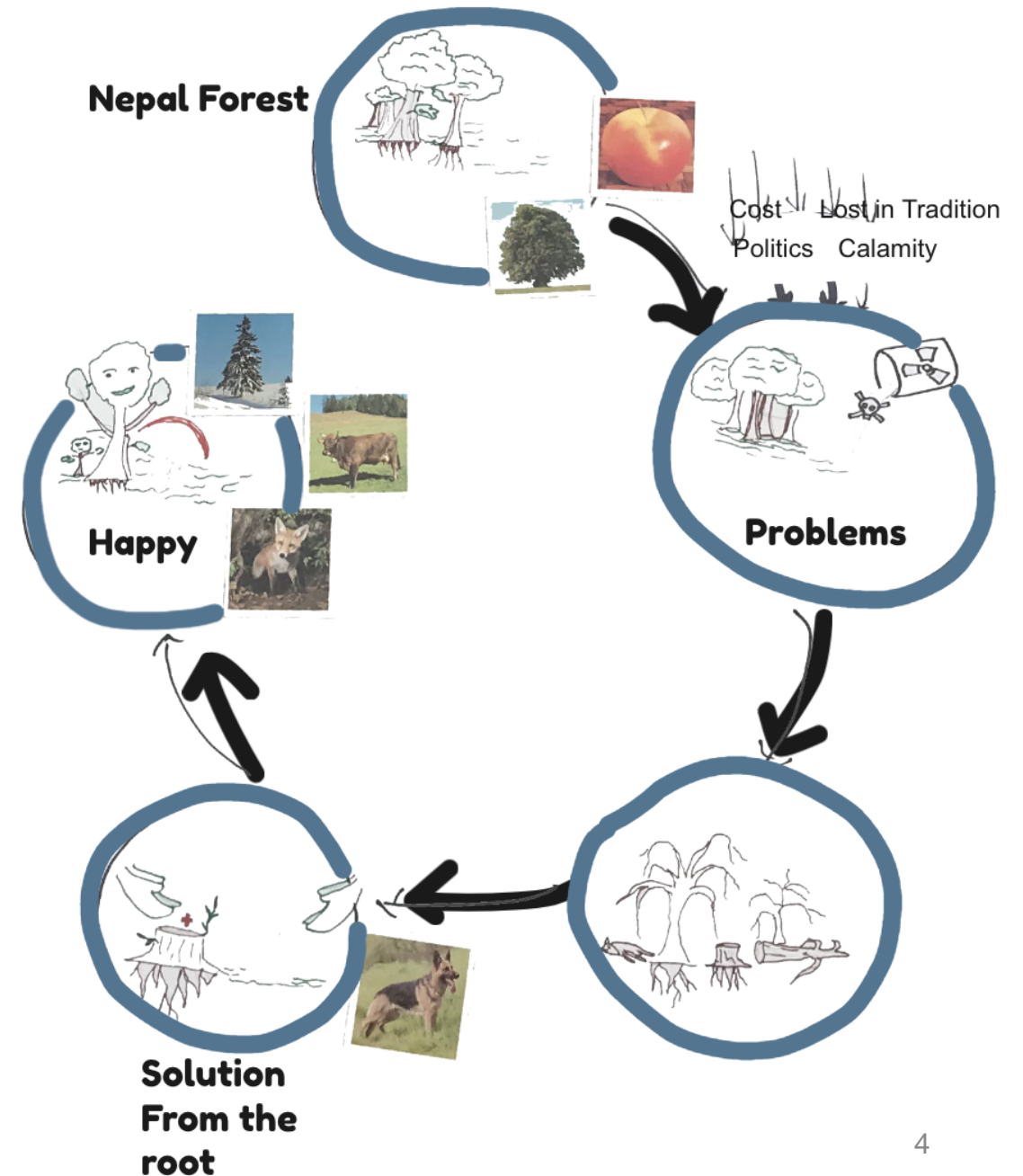
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Team Forest

we named our team as "FOREST" as forest means lives, hope and its a home . its symbolize collaboration, cooperation and the coordination that one need for purposeful living.

its a green, fresh , and precious , something that one have to preserve and make it even more beautiful.



Our Aim

**To apply PBL approach to preserve
Adobe Architecture for sustainable
development.**

Objectives

To identify major problems

To analyse the problem

To find a solution

All to preserve Adobe Architecture.

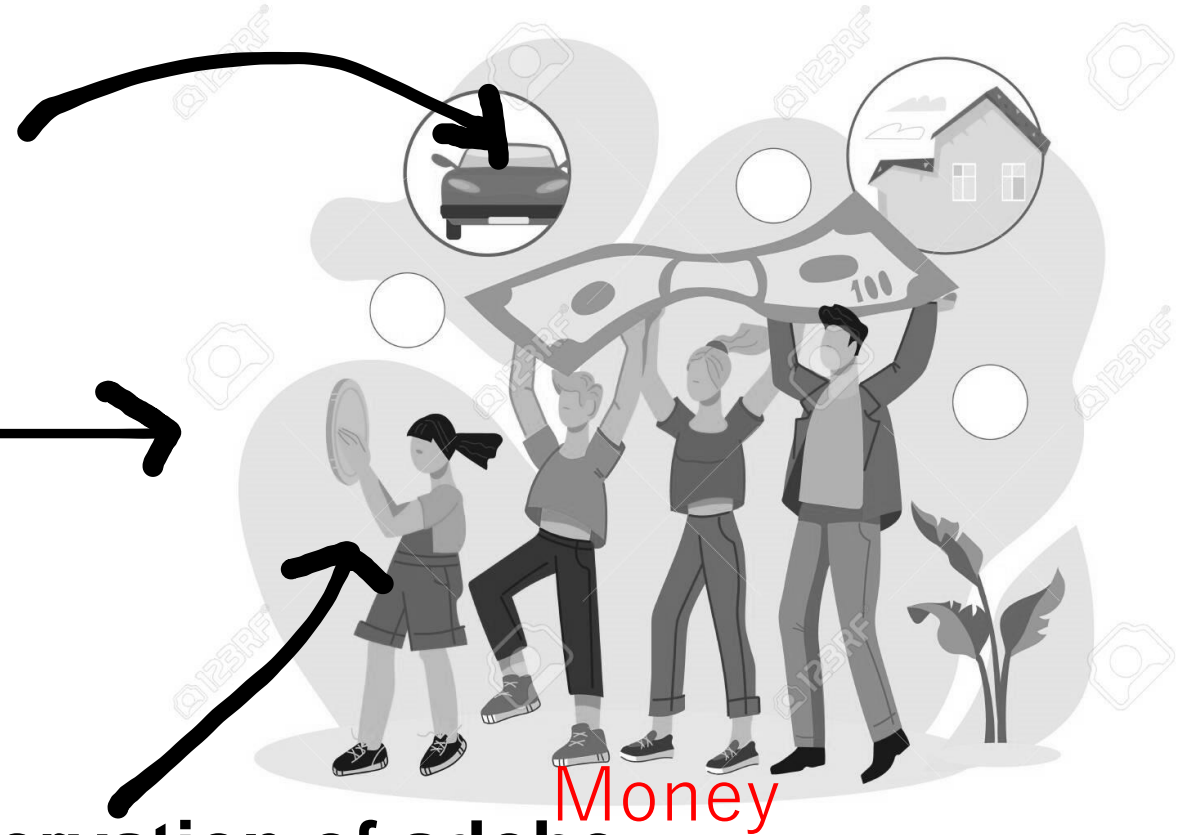
Major Problems

Awareness of People

Material

Financial Incentive

Due to financial issues the preservation of adobe architecture is becoming hard. Money is involved in most action taken.



Start



Kathmandu Architect

NEC Professors



Bhaktapur Municipality

Bhaktapur Mr Ravindra puri



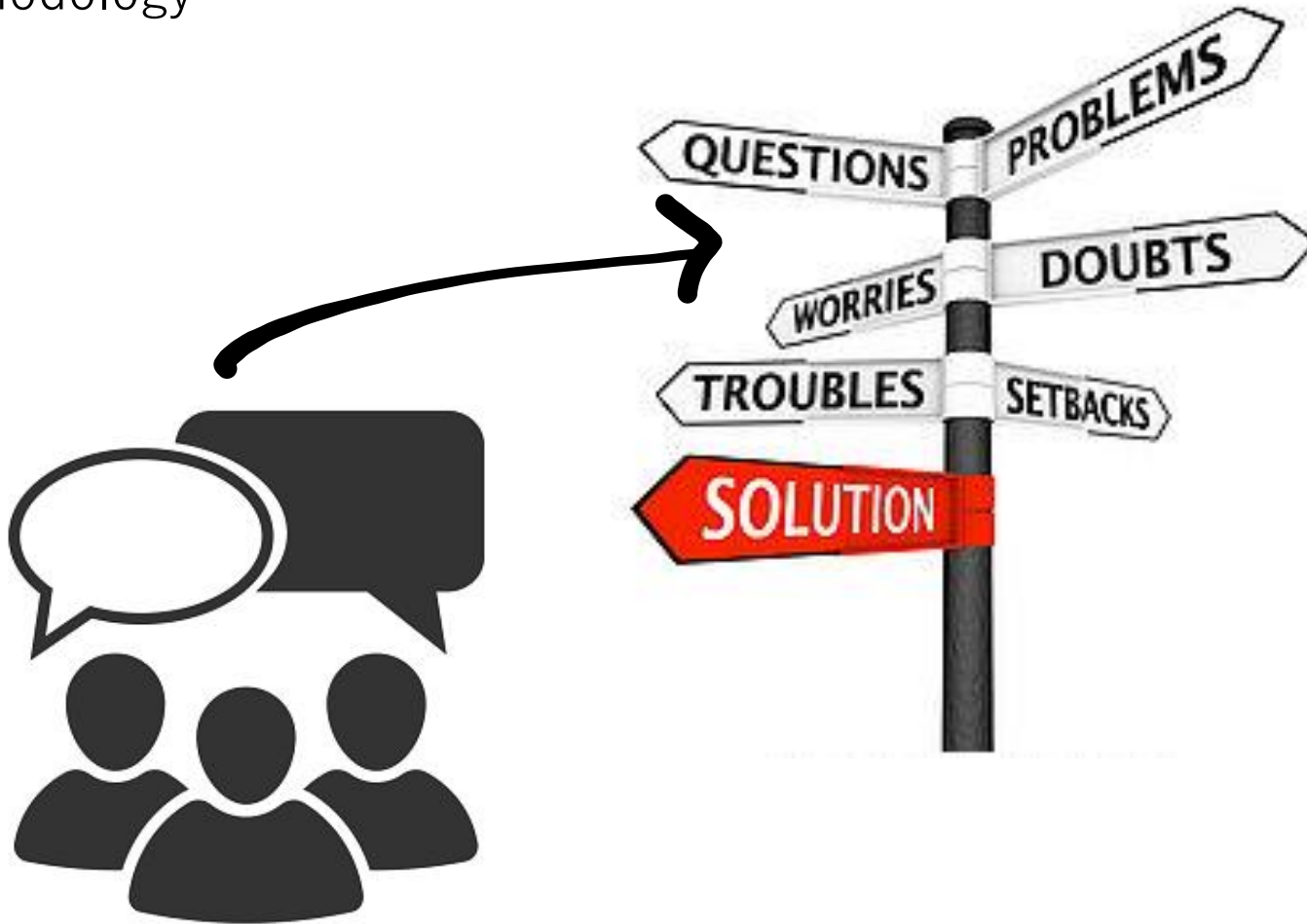
Bhaktapur Carpenter

Panuti Municipality



Analysis

Q-Methodology



Statements

1. Traditional house is more comfortable than modern ones
2. Traditional houses should be built in combination with modern construction technique.
3. I prefer modern houses because they take less time to build than traditional ones.
4. Traditional houses offer enough space for the needs of the dwellers
5. Traditional houses can make traditional construction techniques is widely available
6. Newer generation are interested in learning traditional construction technique
7. Existing traditional houses receive proper maintenance
8. Skilled labour of traditional construction techniques is widely available
9. Newer generations are interested in learning traditional construction techniques
10. There are sufficient training centres to sustain construction of traditional houses
11. People are aware about the importance of traditional houses
12. Municipal authorities raise enough awareness among the population about importance of traditional houses
13. Traditional houses are safer than modern ones against natural disasters
14. Replacement of traditional houses by modern ones degrades the urban landscape
15. Municipal authorities offer enough incentives to build or restore traditional houses
16. Current municipal policies contribute effectively to preserve traditional houses
17. Existing municipal policies facilitate national and international interventions too preserve traditional houses
18. Financial restrictions prevent people to build or restore traditional ones
19. I prefer modern houses because because they are more affordable than traditional ones
20. There is enough access to financial resources to build or restore traditional houses.
21. Modern houses are compatible with our identity and traditional houses.
22. A traditional house provides better social status than a modern house.
23. Traditional houses support the local business better than modern houses.
24. Tourism is a strong incentive for owners to preserve their traditional houses.
25. Materials needed to build traditional houses are easily available.

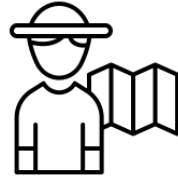
Analysis

Q-Methodology

Group 1



Group 2



Group 3a



Group 3b



Analysis

Q-Methodology

Group 1



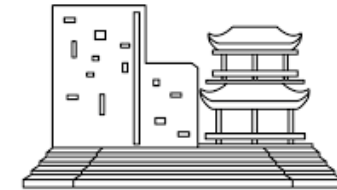
Group 2



Group 3a



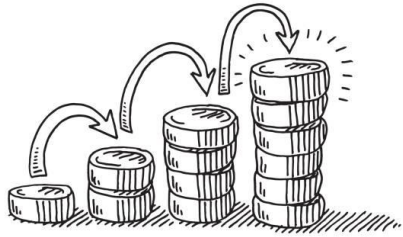
Group 3b



Analysis

Q-Methodology

Group 1



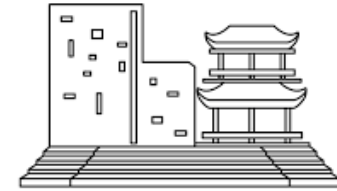
Group 2



Group 3a



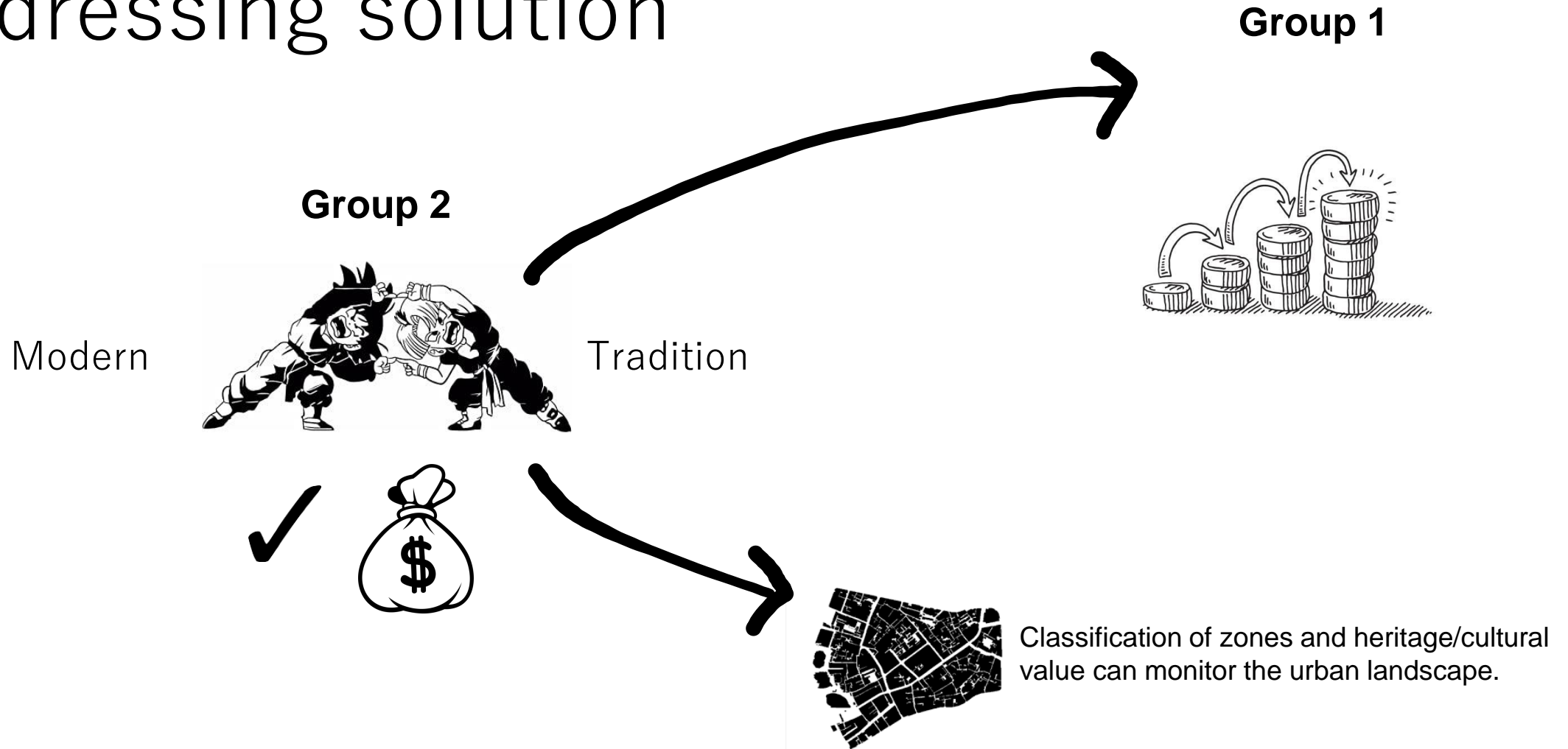
Group 3b



Distinguish



Addressing solution



Solution Objectives

To prioritize the construction of Traditional Architecture through our developed assessment scheme.

To manage the financial incentive.

To lead to a sustain financial circle.



Traditional Building 80-90% Good



Traditional Building damaged but still stand



Part of Traditional Building remains



Traditional façade or ruins remains only

Physical Condition



Building completely destroyed

Classification

| | | |
|-------------|-----------------------------|-----------------------------|
| Traditional | Mix of modern & Traditional | Choice of construction type |
| 1 | 2 | 1 or 2 |

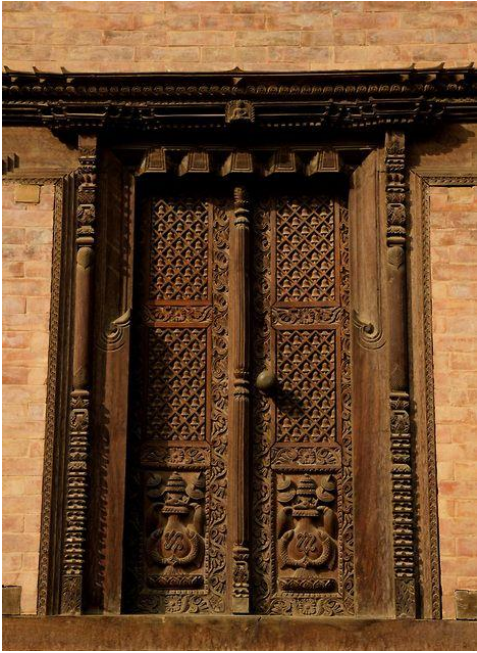
| Physical Conditions | City Center | Commercial | Residential&Commerical | Residential(Rural) |
|--|-------------|------------|------------------------|--------------------|
| Traditional Building 80-90% | 1 | 1 | 1 | 1 |
| Traditional Building damaged but not destroyed | 1 | 1 | 1 | 1 or 2 |
| Part of Building Remains | 1 | 1 or 2 | 2 | 2 |
| Facades/Ruins Left | 1 or 2 | 2 | 2 | 2 |
| Building destroyed/New construction | 1 or 2 | 2 | 2 | 2 |

Required construction work depending on damaged result

| Physical Conditions | Construction required |
|--|---|
| Traditional Building 80-90% | Maintenance work & Patches |
| Traditional Building damaged but not destroyed | Structural work & Patches |
| Part of Building Remains | Reconstruction while preserving part |
| Facades/Ruins Left | Reconstruction while preserving Facades |
| Building destroyed/New construction | Construction from zero |

Required Elements in all construction/Reconstruction

| Elements | Material |
|---------------------------|--|
| Exterior Façade | Brick |
| Door Window & ventilation | Odd number with traditional wooden materials |
| Balcony | Towards chowk with traditional material |
| Piers/Columns | |
| Cornice | |
| Slope roof | Traditional roof Tiles |



Wooden Door Carving



Wooden Balcony Carving



Wooden Piers/Columns Carving



Wooden Window Carving

Values



Wooden Cornice Carving

Thinking



**We know the zones
we know the values of the building
we know which require more work
We know what elements is needed**

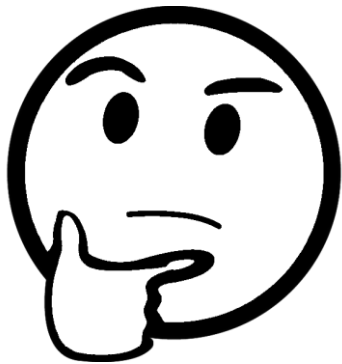
Incentive allocation

| Values | Y/N | Values 35% of building Cost | Physical Conditions | City Center | Commercial | Residential&Commerical | Residential(Rural) |
|----------------|-----|-----------------------------|--|-------------|------------|------------------------|--------------------|
| Piers/Columns | Y | 35% | Traditional Building 80-90% | 2 | 1 | 1 | 3 |
| Door | Y | | | | | | |
| Balcony | Y | | | | | | |
| Cornice | Y | | | | | | |
| Window/Lattice | Y | | | | | | |
| Piers/Columns | Y | 35% | Traditional Building damaged but not destroyed | 3 | 3 | 3 | 4 |
| Door | Y | | | | | | |
| Balcony | Y | | | | | | |
| Cornice | Y | | | | | | |
| Window/Lattice | Y | | | | | | |
| Piers/Columns | Y | 21% | Part of Building Remains | 5 | 4 | 3 | 3 |
| Door | N | | | | | | |
| Balcony | N | | | | | | |
| Cornice | Y | | | | | | |
| Window | Y | | | | | | |
| Piers/Columns | N | 21% | Facades/Ruins Left | 5 | 2 | 3 | 4 |
| Door | Y | | | | | | |
| Balcony | N | | | | | | |
| Cornice | Y | | | | | | |
| Window/Lattice | Y | | | | | | |
| Piers/Columns | N | 0% | Building destroyed/New construction | 5 | 2 | 4 | 5 |
| Door | N | | | | | | |
| Balcony | N | | | | | | |
| Cornice | N | | | | | | |
| Window/Lattice | N | | | | | | |

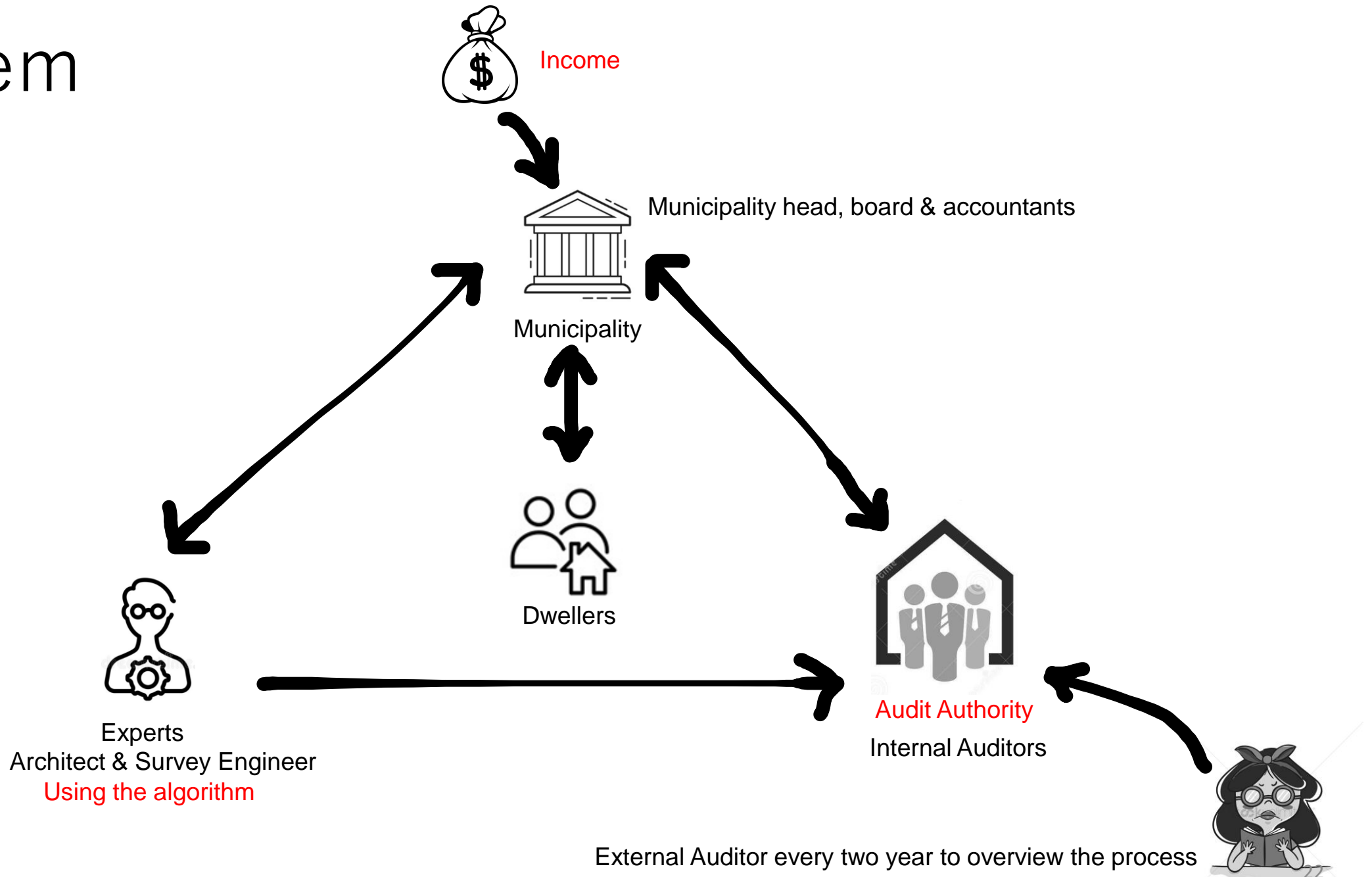
Explication of Table

| Values | Y/N | Values 35% of building Cost | Physical Conditions | | City Center | Commercial | Residential&Commerical | Residential(Rural) |
|----------------|-----|-----------------------------|-----------------------------|--|-------------|------------|------------------------|--------------------|
| Piers/Columns | Y | 35% | Traditional Building 80-90% | | 2 | 1 | 1 | 3 |
| Door | Y | | | | | | | |
| Balcony | Y | | | | | | | |
| Cornice | Y | | | | | | | |
| Window/Lattice | Y | | | | | | | |

2 is allocated for 100% of the building. As there is no need for paying for carving elements, only 65% of 2 is needed. Hence after removing the elements only 1.3 is needed



System



Mobile App



Mobile Apps

Fi-Suvidha

First Name

Last Name

CID No.
Enter Your CID No.

Email ID/Phone no
Enter Your Email

Password

Sign up

[Download Files](#)

सधै तपाईको सेवाको लागि

Fi-SUVIDHA

Email/Phone No.

Password

Sign in

[Forgot Password](#)

Create Account

सधै तपाईको सेवाको लागि

Home

Fi-Suvidha

Municipality/Nagarpalika

ward No.

Toll

Next

सधै तपाईको सेवाको लागि

Home

1

4

1

2

Calculate

Back

सधै तपाईको सेवाको लागि

Home

34%

सभिसको फाइदा लिनुभएकोमा धन्यवाद

Apply For Incentive

Back

सधै तपाईको सेवाको लागि

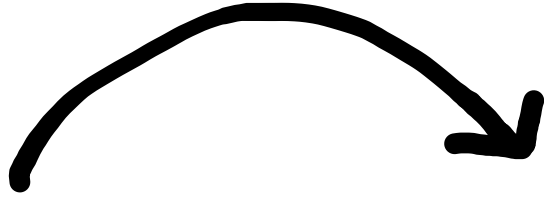
Upload Files

सभिसको फाइदा लिनुभएकोमा धन्यवाद

We talked about an algorithm of allocation incentive.

What about ways to increase financial resources and internal finance over years?

Next step to be developed(1)



Tourists?

PUT UP YOUR HAND



Ticket increase by 25%
Will you buy?



Ticket increase by 25%
But you get one week ticket
Will you buy?

What's the benefits?
We don't understand?

**Tourist will invest in
restaurant, shops,
activities**

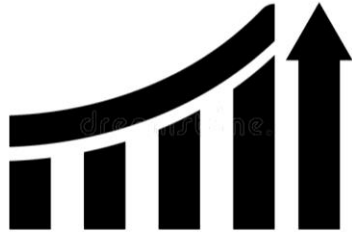


Next step to be developed(2)



An official paid guided tour or audio tour.

Tourist transport (that way handicap people can enjoy too)



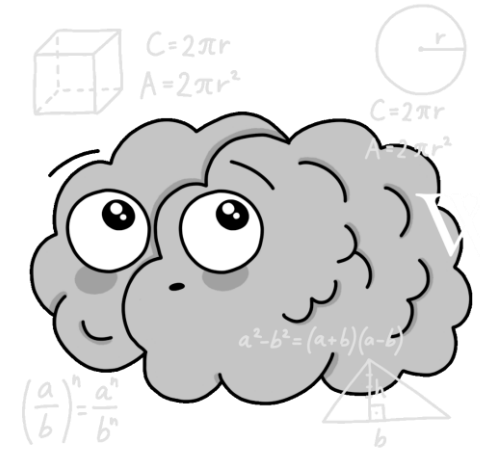
With well maintained traditional house

Rentable Newari houses. Tourist will love to stay in to experience the Newari houses.

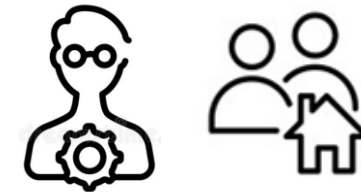
Impact: Financial Circle



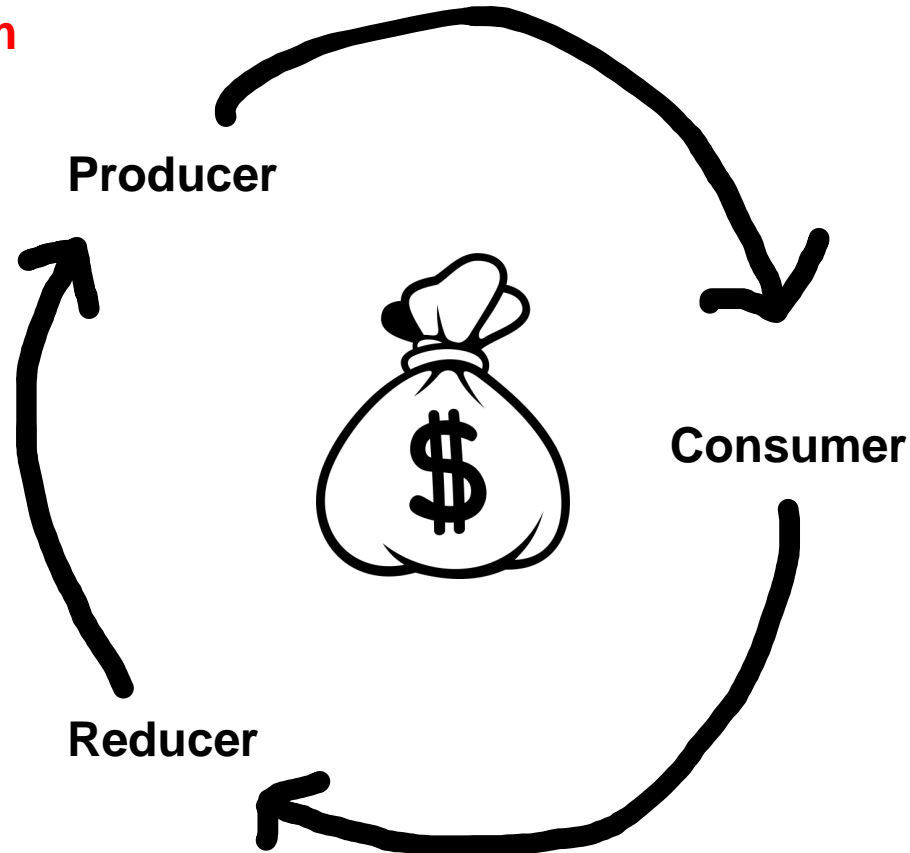
**Eco-tourism
Business**



Preservation of A.A



Algorithm



Impact: Sustainable

Human

Social

Economic

Environment

How was it?



Thank You



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Nepal, Kathmandu 2022



Bhaktapur
2022-08-17