

CLIMATE CHANGE ACTION PLANS FOR DA NANG



GROUP MEMBERS

- ◆ IFEOMA UKONZE (NIGERIA)
- ◆ PIYAPONG JANMAIMOOOL (THAILAND)
- ◆ ILUMINADO JR. DE CASTRO QUINTO (PHILIPPINES)

WHAT DO WE WANT TO DO?

- CITY PROFILE
- VULNERABILITY ASSESSMENT
- ADAPTATION ASSESSMENT
- MITIGATION ASSESSMENT
- LOCAL CLIMATE CHANGE ACTION PLAN

A LITTLE ABOUT THE DISTRICT

- ❑ Area: 1,256 km² (485 sq mi)
- ❑ Population: 973,800 (at 2012)
- ❑ Annual population growth rate: approximately 1.3%
- ❑ Density: 775/km² (2,010/sq mi)
- ❑ Da Nang City is a major port city on the coast of the South China Sea in the South Central Coast Region of Vietnam.
- ❑ Largest Urban center in central Vietnam

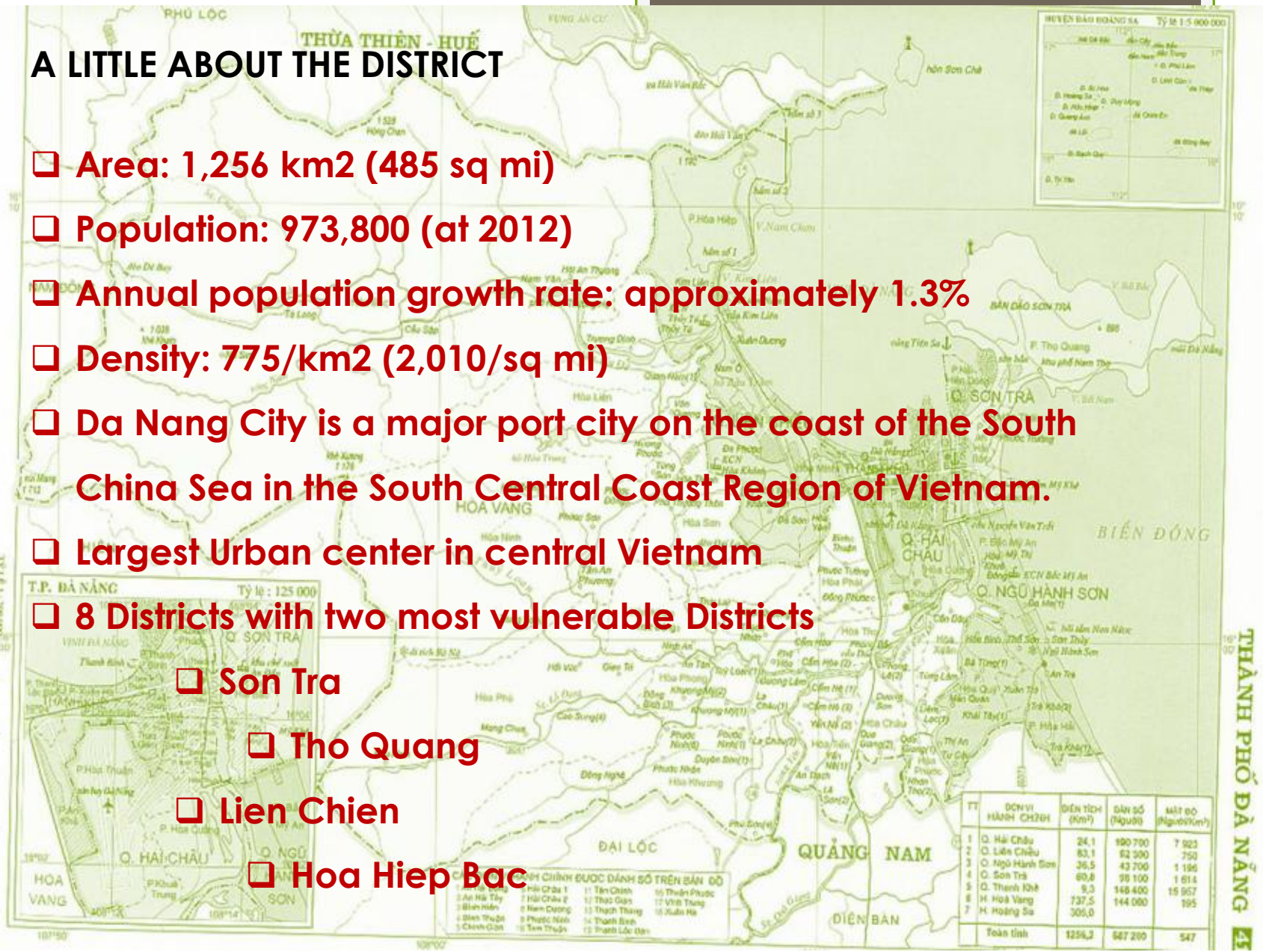
❑ 8 Districts with two most vulnerable Districts

❑ Son Tra

❑ Tho Quang

❑ Lien Chien

❑ Hoa Hiep Bac



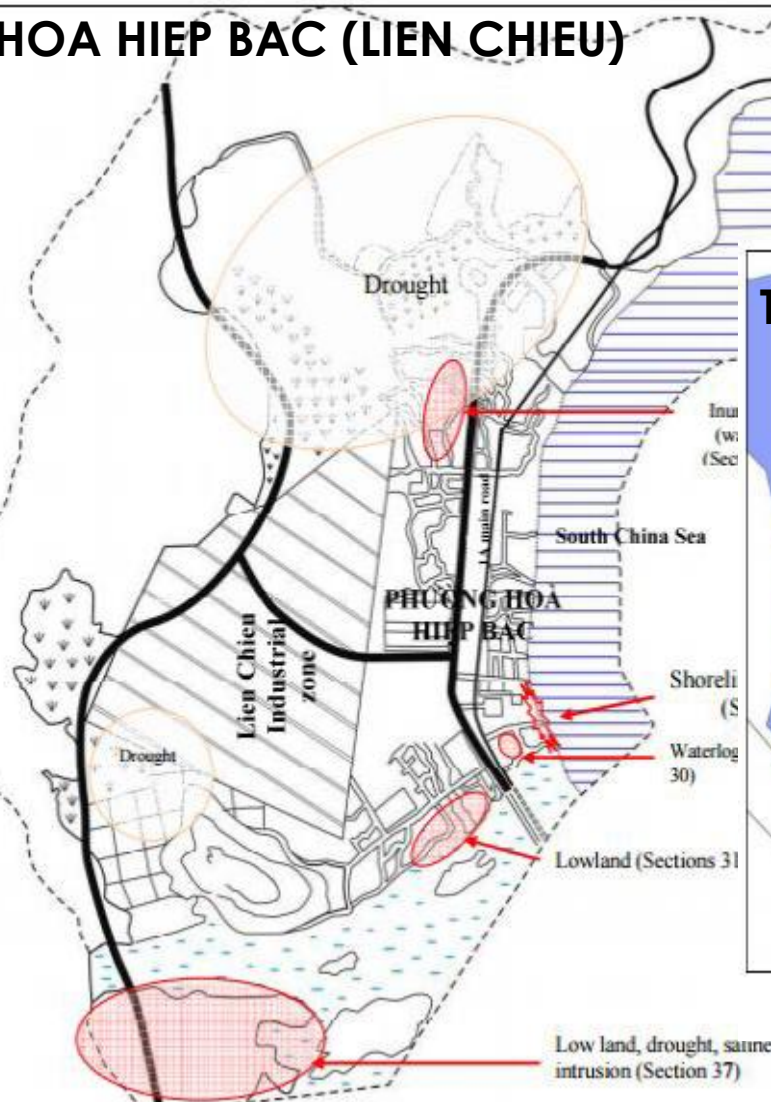
DANANG



VULNERABILITY ASSESSMENT

HAZARD	VULNERABLE GROUP	MOST VULNERABLE CITIES
Flooding	Livelihood: Farmers	Hoa Hiep Bac (Lien Chieu)
	one	
	people	Hoa Hiep Bac (Lien Chieu)
	en	

HOA HIEP BAC (LIEN CHIEU)

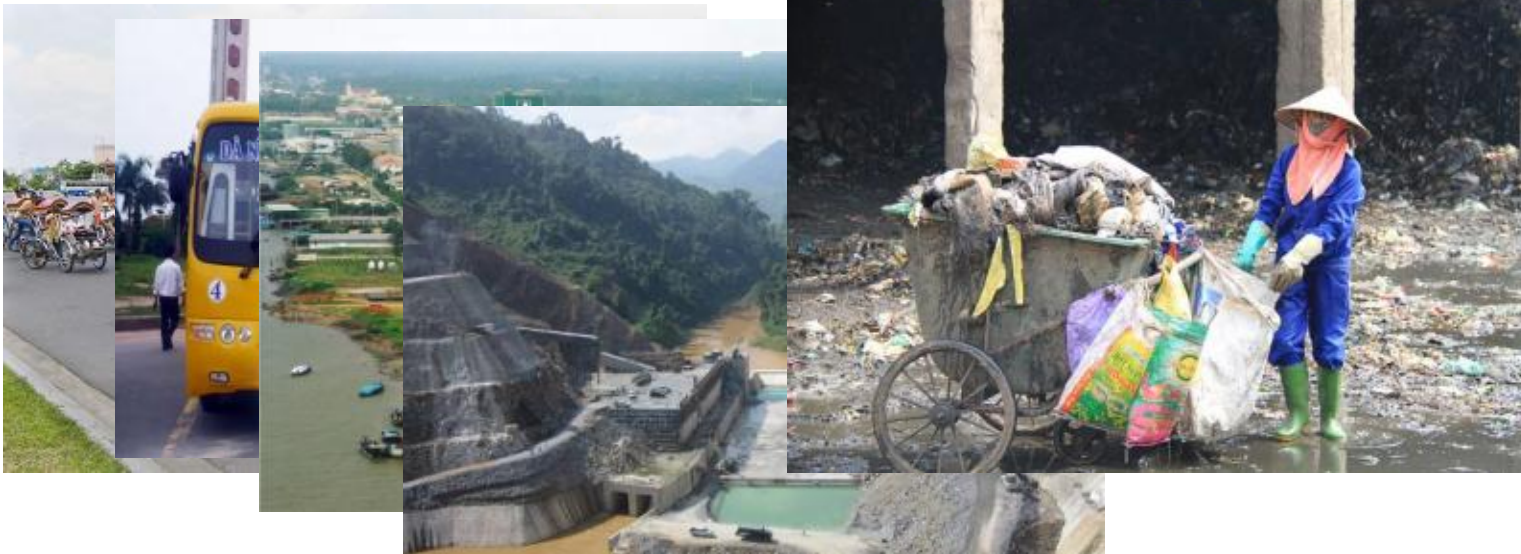


THO QUANG (SON TRA)



Figure 27. Hazard map of Tho Quang ward

GHG Emission SECTOR	Weakness	Assets
Transportation (45%)	Major emitter of green house gases (Motorcycles)	Bus Rapid Transit
Energy Use Industrial (21%) Residential (13%)	Insufficient in Energy consumption	Renewable Energy (Hydro power 16%)
Other sector(13%)	Inefficient System	Nil



**12 PROPOSED
ADAPTATION ACTIONS****CLIMACT ASSESSED
ACTIONS****SELECTED ACTIONS****1. Early warning systems**

- 2. Capacity building for the fishermen
- 3. Relocation of vulnerable people (Co-tu)

4. Design standards for Poor houses

- 5. Emergency medical services
- 6. Water storage and conservation facilities and flood walls
- 7. Dikes along the flood prone area

8. Waste Management system

- 9. Drainage system
- 10. Construction of evacuation centers
- 11. Community based disaster awareness measures
- 12. Zoning ordinances to protect farmlands and creating open spaces

- 1. Community based disaster awareness measures

2. Early warning systems

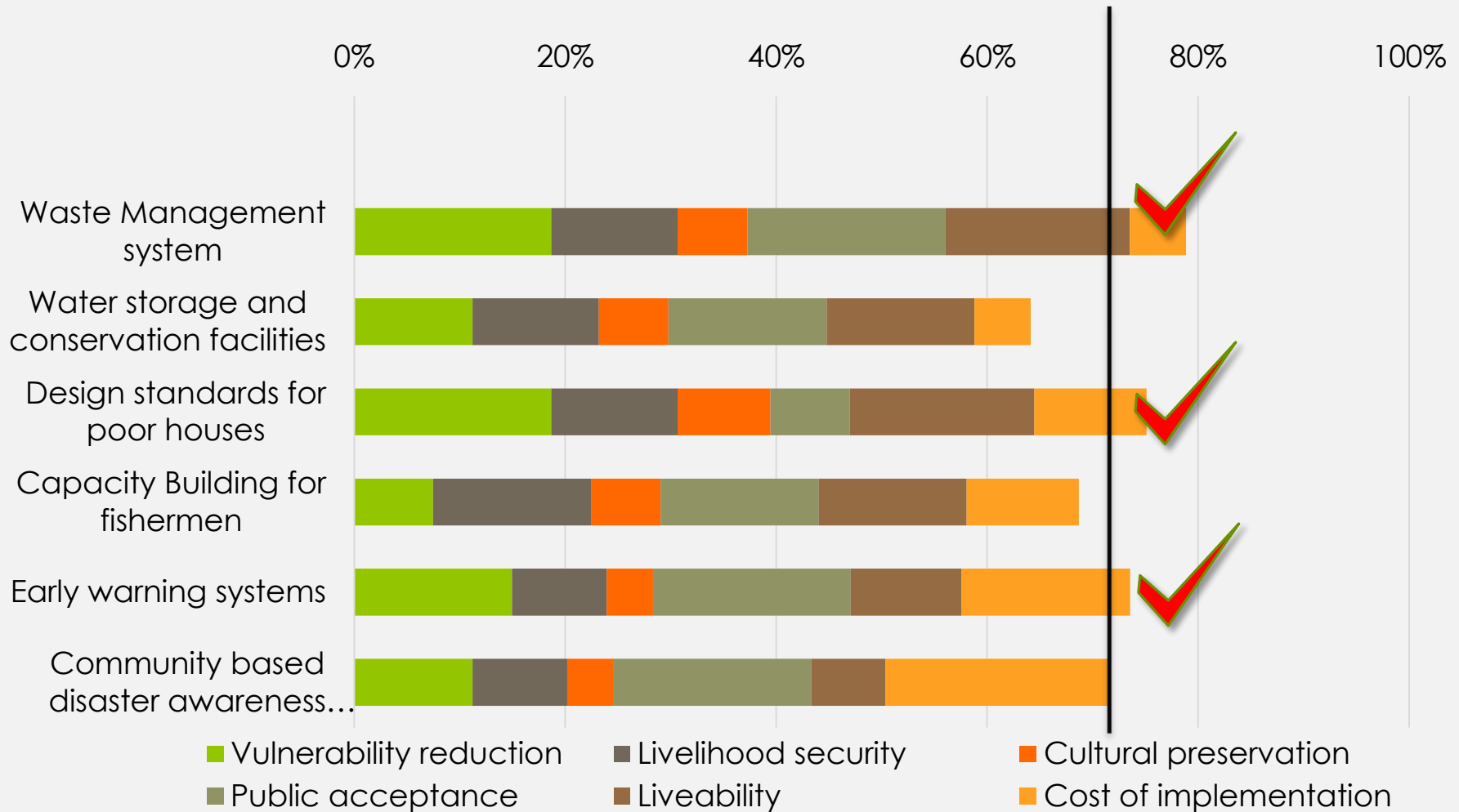
- 3. Capacity building for fishermen

4. Design standards for poor houses

- 5. Water storage and conservation facilities

6. Waste management system**1. Waste management system****2. Design standards for poor houses****3. Early warning systems/Community based awareness measures**

FINAL SCORES AND CONTRIBUTION OF CRITERIA



A VIEW OF THE ADAPTATION PLAN

GOOD STANDARD HOUSES



12 PROPOSED MITIGATION ACTIONS

1. **Bus Rapid Transit**
2. Hydro power
3. Solar power
4. **Methane recovery**
5. Bicycle Infrastructure
eg. Bicycle lanes and
theme park
6. Bicycle Theme Park
7. **Developing Biking and
Environmental Awareness**
8. Intelligent lighting
system for part-night
operation, trimming and
remote monitoring
9. Building Regulations for
new buildings
10. Provision of efficient
water system eg. Fixing
leak
11. Environmental
Education in Schools
12. Light rail transit system

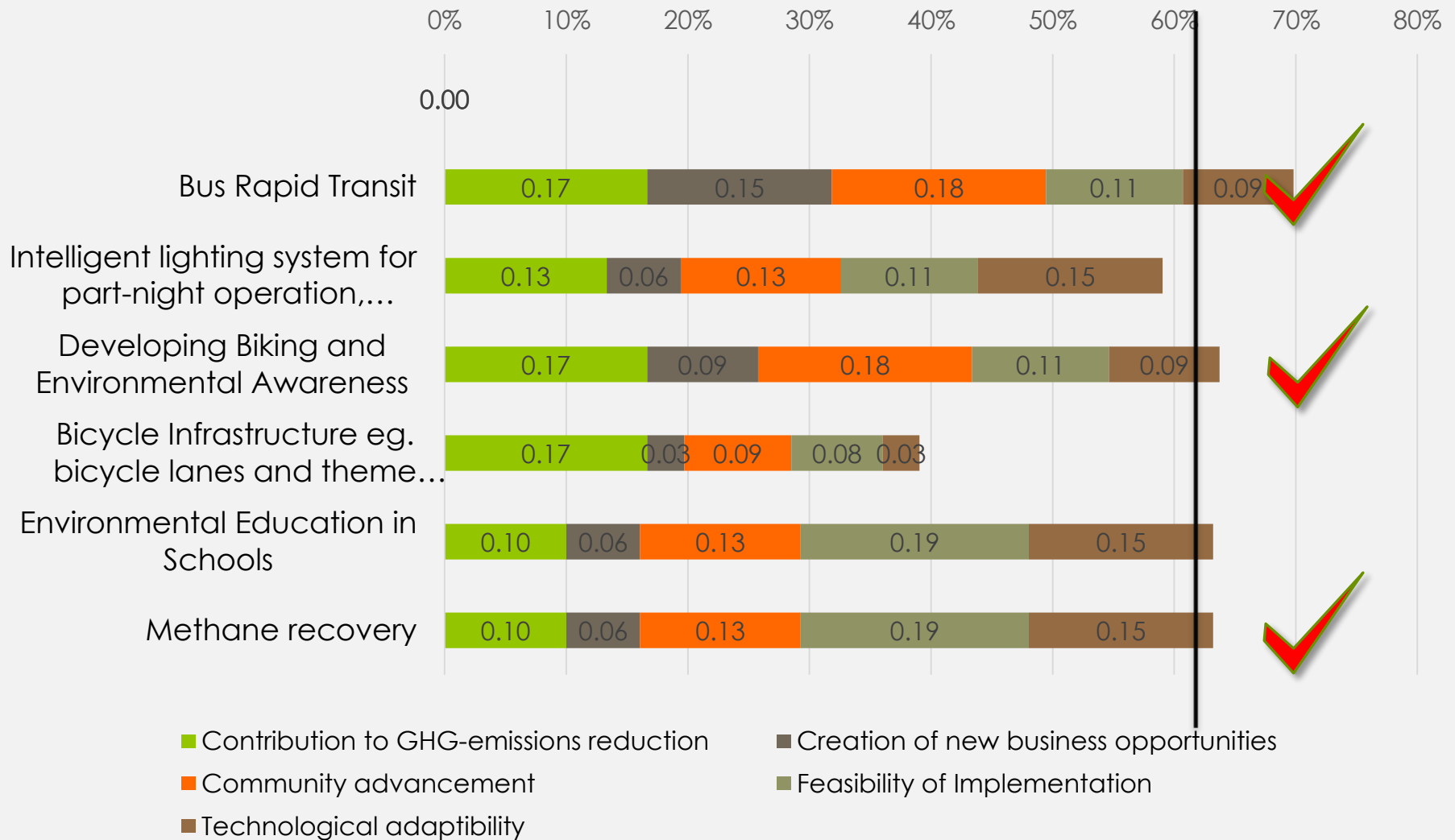
CLIMACT ASSESSED ACTIONS

1. **Methane
recovery**
2. **Environmental
education in
Schools**
3. **Bicycle
infrastructure e.g.
bicycle lanes and
theme park**
4. **Developing
biking and
environmental
awareness**
5. **Intelligent lighting
system for part-
night operation,
trimming and
remote monitoring**
6. **Bus Rapid Transit**

SELECTED ACTIONS

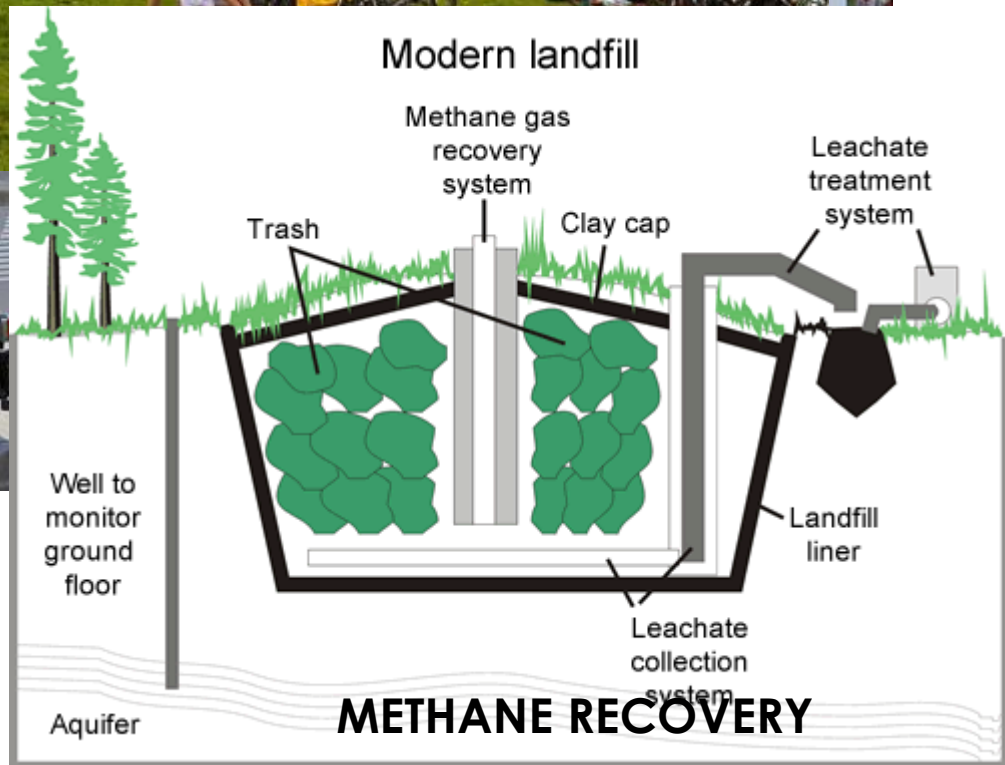
1. **Bus Rapid
Transit**
2. **Developing
biking
awareness and
bicycle
infrastructure**
3. **Methane
recovery**

FINAL SCORES AND CONTRIBUTION OF CRITERIA



A VIEW OF THE MITIGATION PLAN

BUS RAPID TRANSIT





INTEGRATION OF ADAPTATION AND MITIGATION ACTIONS

Adaptation measures

1. Waste water management system
2. Design standards for poor houses
3. Early warning systems/community based awareness measures



Mitigation measures

1. Bus rapid transit
2. Developing biking awareness and bicycle infrastructure
3. Methane recovery

1. **Waste management systems /Methane recovery**
2. **Design standards for poor houses**
3. **Bicycle infrastructure development with awareness enhancement**
4. **Bus rapid transit**
5. **Early warning systems/community based awareness measures**

CLIMATE CHANGE ACTION PLAN

SPATIAL DIMENSIONS OF ACTIONS

-
1. Waste management system + Methane recovery
 2. Design standard for poor houses
 3. Early warning system and community based awareness measures
 4. Bus rapid transit
 5. Bicycle infrastructure development with awareness enhancement

TIMEFRAME FOR THE IMPLEMENTATION

Actions	year 1				year 2				year 3				year 4				year 5				year 6			
	1/q	2/q	3/q	4/q	1/q	2/q	3/q	4/q	1/q	2/q	3/q	4/q	1/q	2/q	3/q	4/q	1/q	2/q	3/q	4/q	1/q	2/q	3/q	4/q
Waste management system																								
Design standard for poor houses																								
Early warning system and community based awareness measures																								
Bus rapid transit ☑																								
Bicycle infrastructure development with awareness enhancement																								

Methods

Baseline data gathering	
Development of strategy	
Development of action plan	
Approvals	
Implementation	
Monitoring and Revision	


FINANCIAL RESOURCES FOR THE IMPLEMENTATION OF ACTIONS

Actions	Financial Sources (1=10%)									
	1	2	3	4	5	6	7	8	9	10
Waste management system										
Design standard for poor houses										
Early warning system and community based awareness measures										
Bus rapid transit ?										
Bicycle infrastructure development with awareness enhancement										

Financial Sources

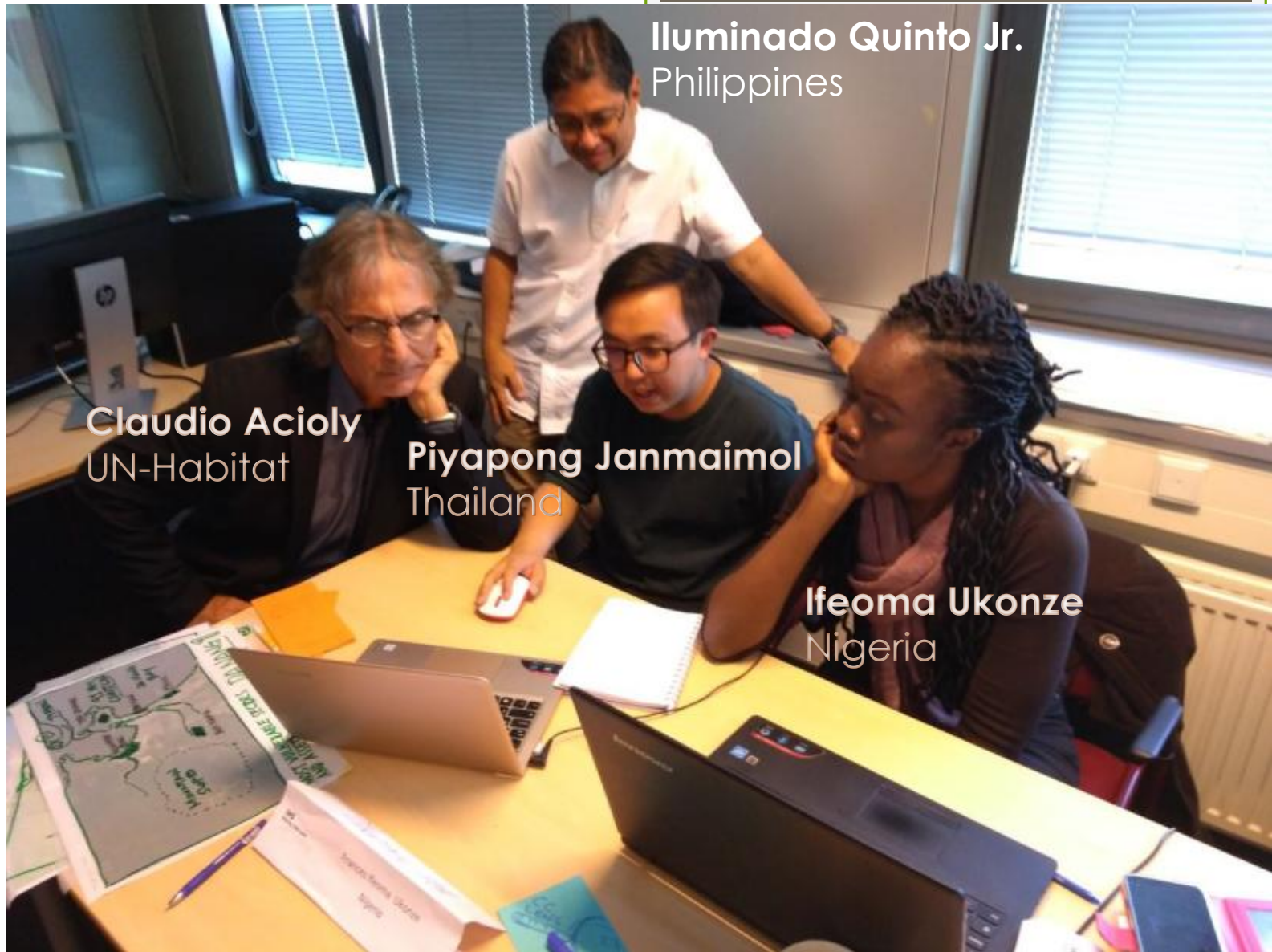
Local	
Public-Private Partnership	
National	
International	

STAKEHOLDERS AND POSSIBLE PARTNERSHIPS

Actions	Stakeholders (Degree of Involvement)									
	1	2	3	4	5	6	7	8	9	10
Waste management system	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Grey	Grey
Design standard for poor houses	Green	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey
Early warning system and community based awareness measures	Yellow	Yellow	Yellow	Yellow	Red	Grey	Grey	Grey	Grey	Blue
Bus rapid transit 	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Grey
Bicycle infrastructure development with awareness enhancement	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey

Stakeholders

National Government	Green
Local Government	Yellow
Business Sector	Red
Communities	Grey
International Community	Blue



Illuminado Quinto Jr.
Philippines

Claudio Acioly
UN-Habitat

Piyapong Janmaimol
Thailand

Ifeoma Ukonze
Nigeria

Thank you for listening

Questions??

