



EFFECTIVENESS OF EXISTING COASTAL LEGISLATIVE FRAMEWORK TO MANAGE THE DEVELOPMENT ACTIVITIES IN UNAWATUNA BEACH AREA, SRI LANKA

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01. INTRODUCTION

Need of the study & Limitations



“To what extent Existing laws pertaining to coastal development activities w

Ketchum (1972)
“Man has only recently come to realize the **finite limitations of the coast** as a place to live, work, and play and as a source of valuable resources. This realization has come along with **overcrowding, overdevelopment** in some areas, and destruction of valuable resources by his **misuse of this unique environment.**”

Mar To minimizing the Overdevelopment & managing the development

In the Sri Lankan Context at the movement:

Coast Conservation Act No.57 of 1981

Coastal Permitted development is increasing

Coastal Unauthorized development is increasing

Amendment Act No.64 of 1988

Rapid Coastal Tourism development

Amendment Act No.49 of 2011

Degradation of the level of stability in beach front

• CZMP-1990,1997
• CZMP-2004

• Only Select One Coastal Segment actually this legal framework directed to managing the development activities within the coastal zone

02. LITERATURE REVIEW

Defined Key words

Development Activity

“Coastal Zone Means that are lying within a limit of 300m landwards of the Mean High Water Line and a limit of 2km seawards of the Mean Low water Line and in the case of rivers, streams, lagoons or any other body of water a further extended limit of 100m inland from the Zero Mean Sea Level along the periphery of 2km drawn and shall be or any

“Development Activity means any activity likely to alter the physical nature of the Coastal Zone in any way and includes the construction of buildings and works; deposit of wastes or other material from outfalls; vessels or by other means, the removal of sea sand, coral, shells, natural vegetation, sea grass or other substances; dredging and filling; land reclamation and mining or drilling for minerals but does not including fishing.”

Sri Lankan Coast Conservation Act, No.57 (1981)

any other body of water a further extended limit of 100m inland from the Zero Mean Sea Level along the periphery

Sri Lankan Coast Conservation Amended Act, No.49 (2011)

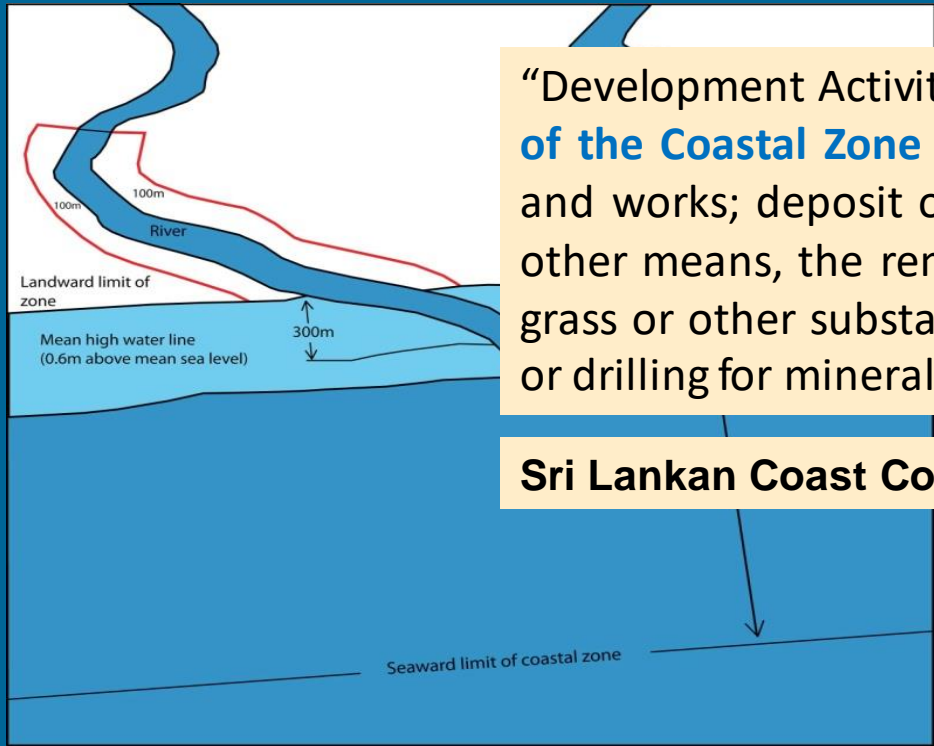


Figure 2.1: Sri Lankan Coastal Zone Limits

Source: CZMP 2004



02. LITERATURE REVIEW



Administrative Coastal Management Approach

Kay .R & J. Alder (2005) *Coastal Management and Planning* ,Lasswell and McDougal (1992), Haar (1997)

CCA No.57,1981 14(1)

- Guideline was accomplished by CCB
- Development activity categorized (HT,SH,RS,MS,SR)

1. Policies and Legislations

Multiple setback policy

Chapter 6 Regulatory System CZMP-1997)

2. Guidelines

- Recommended to Setbacks for the all development activities.
- PVL is the existing setback demarcation line
- Total setback is consisted with Reservation & Restricted areas

2. Zoning

Issuing &Implementing demolition orders

CCA No57,1981 31(1)

4. Regulation and enforcement

- Paid fines for the identified unauthorized structures.
- Demolishing unauthorized structures on the beach or within the total setbacks.

EIA and IEE procedure

CCA No.57,1981 16(1)

- Large kind of development project should be followed this procedure.

New Definition of Coastal Zone (Zoning)

(Amendment) Act No.49 of 2011

100m riparian Land brought under control CZ regulations.



03.RESEARCH DESIGN

Selection and Justification of the case study

Criterion for select the case study area

02.Recent Removal of Unauthorized Structures:

No of permits issued by CCD from 2005 to 2012

No of demolition orders issued by CCD from 2004 to 2012

recognized Galle district came
also identified Galle came
to 1st order under the
illegal development
category. Combinations of
above main two criterions
select the Galle district as
at presently highly
developed coastal district
in Sri Lanka.

	(RS)				(HT)		(SH)	removal	(MS)		
District	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total	
Colombo	6	26	23	9	13	23	8	46	26	180	
Kalutara	6			185	100		42	42	134	503	
Kalutara	Galle	82		474	830	3	167	176	365	1262	
Galle	65	55	12	41	83	28	22	132	60	498	
Matarara	10	28	7	11	7	16	8	41	24	152	
Hambanthota	9	36	2	11	6	9	5	16	15	169	
Ampara				11	54		6	0	51	122	
Batticaloa				15	30		1	8	22	76	
Trincomalee				95	41		51	10	125	322	
Mullativu				0		1	0	0	1	2	
Jaffna				0		3	0	0	7	10	
Mannar				143	18		14	2	74	251	
Puttalam				429	14		37	162	158	749	
Gampaha	10	18	8	49	9	6	4	30	90	143	
Kilinochchi											
Total	100	249	68	140	140	85	59	345	160	1376	

Source: Sri Lankan Coast Conservation Department



03.RESEARCH DESIGN

Selection of the case study



No. of Permits Issued by CCD -2012 (DSD Vice)							
District	Name of DSD	Category					
		HT	RS	MS	SH	SR	Total
Galle	Galle	3	4	7	9	8	31
	Balapitiya	2	1	10	1	0	14
	Habaraduwa	41	22	38	9	11	121
	Hikkaduwa	11	19	22	12	0	64
	Benthota	7	6	6	3	0	22
	Ambalangoda	0	8	4	2	0	14
	Rathgama	0	0	0	1	0	1

Source: Coast Conservation Department

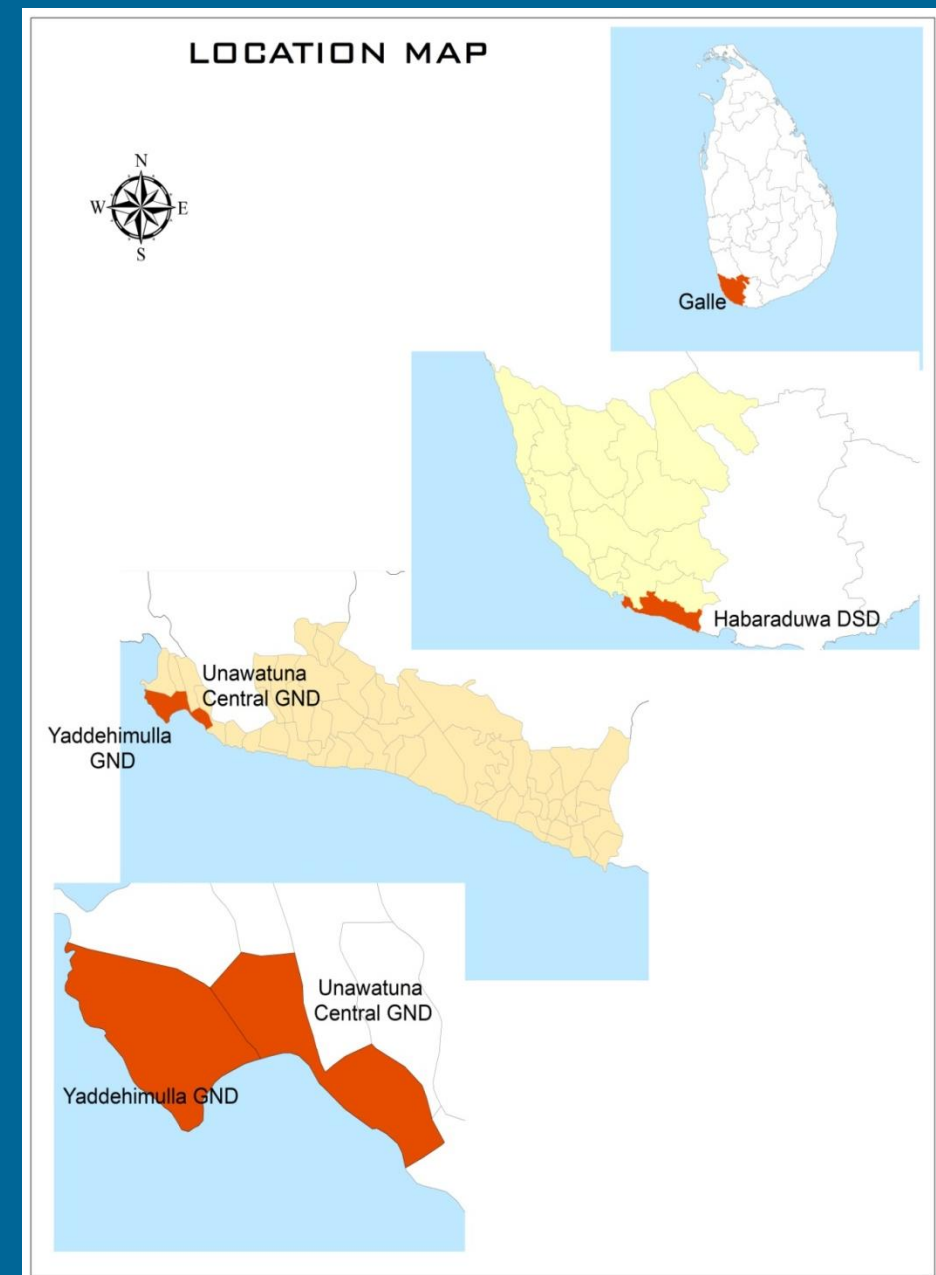
Habaraduwa DS Division

33.Cement Factory Galle to Welladewalaya Unawatuna

34.Welladevalaya to Koggala Outlet

35.Koggala Outlet to Walliwala East 140th km.post

Unawatuna Beach Script



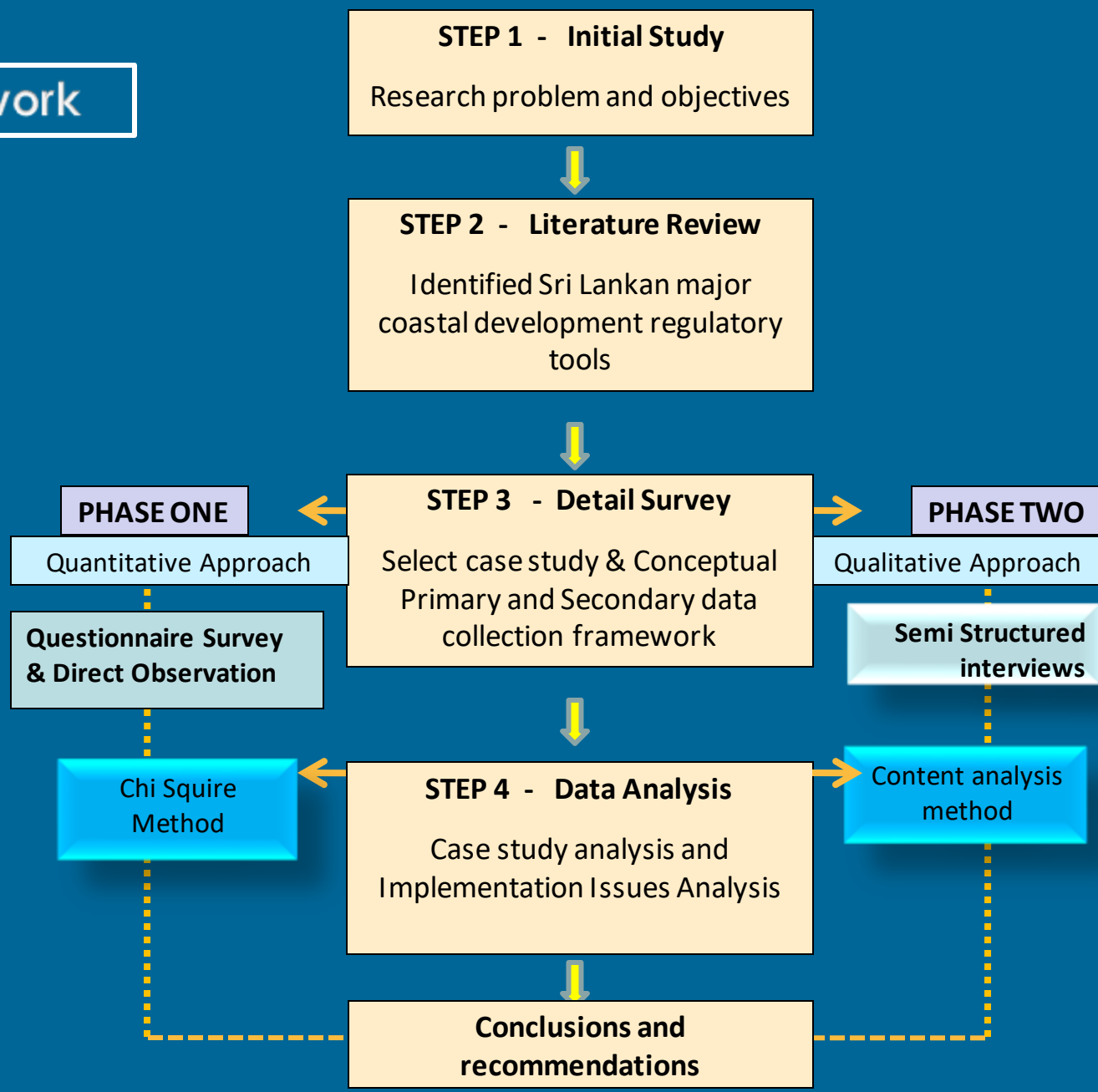
03.RESEARCH DESIGN

Research methodological framework



Literature Review

- basically contributed to identify knowledge about the Legislative based Coastal management approach and to recognize Existing Sri Lankan Coastal Development regulatory tools and its role of current coastal management procedure.



03.RESEARCH DESIGN

Research methodological framework

Detail survey – Data collection



PHASE 02 – professional opinion survey

- qualitative approach
- it is followed semi structured interviews method to collect the relevant professional ideas.
- prepare the interview guide line
- interviews sample selection is consisted every section heads in CC&CRMD to carry out the ideas of **relevant implementing issues**.

- to
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- in
- development activities in selected area
- Directly observations selected coastal segments

Existing coastal zone legislative	Data collection criterion	Data collection technique
	Approved floor area , Existing floor area and Nature of Violation	Questionnaire survey/observation
	Level of stability of the beach front Visible signs of erosion	Questionnaire survey/observation/photo graphic survey
	Rem Grad dunc	
Removal of unauthorized structures	Dem Not	
Requirement of EIA and IEE	Natu	

- **Development Permit procedure**
- **Multiple setback policy**
- **Power of issued demolition orders**
- **EIA & IEE requirement**
- **New Extended coastal Zone**



03.RESEARCH DESIGN

Research methodological framework

Phase 02- Content Analysis Technique

Data Analysis

Identification of the Analytical
based Implementation issue



SPSS Chi-Squire calculation process

- Formulated F
 - Data entered
 - Chi-Squire va
 - Examine the
- (Look at the
"Pearson Chi
convention th
statistic is con
researcher can
between the two variables is not due to chance)

Content analysis is a technique which is used for gathering data, involves
codifying qualitative information into pre-defined categories (codes) in
order to derive patterns in the presentation and reporting of information
(Guthrie et al., 2004).

the **code-base content analysis** was used to capture imperative analysis

ast 10).

ed.



04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS

Selected location for Case Study Survey



Unawatuna bay is one of major tourist attraction in Galle. As a result mostly Hotels, restaurants and tourism promotion development activities and structures were recognized in Unawatuna beach.

Further have been identified **Residential, commercial establishments and fishing activities mixed development** in nearest unawatuna bay.



04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS

Unawatuna in Habaraduwa DS Division



Purpose of the case study Analysis

To understand the selected development regulatory tools directed development activities towards the manageable level in Unawatuna beach.

Find out the relationship between different regulatory tools and existing development activities

- Development Permit procedure
- Multiple setback policy
- Power of issued demolition orders
- EIA & IEE requirement



Through the
Chi-square test

Existing development activities in sample site

- Hotels (HT)
- Residential Structures (RS)
- Commercial Structures (SH)
- Other (MS)



04.RESEARCH ANALYSIS & FINDINGS



Examine the Sample survey Findings

Relationship between development activities and Permit procedure.

- H_0 : **There is not** a significant influenced between permit procedure and managing the development activities in Unawatuna coastal segment.
- H_1 : **There is a** significant influenced between permit procedure and managing the development activities in Unawatuna coastal segment.

Development activity & permit issued or not Cross tabulation in Unawatuna Beach			
Development activity	permit issued or not		Total
	not issued	Issued	
HT	5(45.5%)	2(2.2%)	7(35.0%)
MS	1(9.1%)	2(22.2%)	3(15.0%)
RS	3(27.3%)	3(33.3%)	6(30.0%)
SH	2(18.2%)	2(22.2%)	4(20.0%)
Total	11(100%)	9(100%)	20(100%)

permit not issued column rates higher than Issued column rate.

Chi-Square Tests - Development activity& permit issued or not -Unawatuna			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.433 ^a	3	.698
Likelihood Ratio	1.468	3	.690
N of Valid Cases	20		
a. 8 cells (100.0%) have expected count less than 5. The minimum expected count is 1.35.			

the Chi- square value (0.698) greater than(0.05)

Chi-square test was performed and **no relationship** was found between Development activity and the permit procedure in this particular area.





Relationship between Development Activity and multiple setback policy

Existing Coastal Development Setback Standards in Habaraduwa Coastal Segments

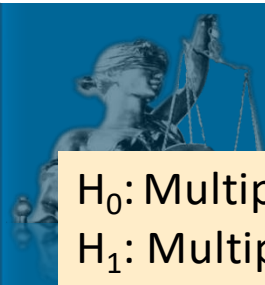
	Coastal segment	Geographic Reference		Proposed setback		Total Setback
		(Lat)	(Long)	Reservation	Restricted	
33	Cement Factory Galle to Welladewalaya Unawatuna	6° 1' 38" 6° 0' 20.1"	80° 14' 22.8" 80° 14' 31.5"	10m	25m	35m
34	Welladevalaya to Koggala Outlet	6° 0' 20.1" 5° 58' 54.1"	80° 14' 31.5" 80° 19' 57.7"	15m	30m	45m
35	Koggala Outlet to Walliwala East 140 th km.post	5° 58' 54.1" 5° 57' 34.6"	80° 19' 57.7" 80° 23' 49.7"	20m	30m	50m

Source: CZMP 2004



04.RESEARCH ANALYSIS & FINDINGS

Examine the Sample survey Findings



Relationship between Development Activity and multiple setback policy

H_0 : Multiple Setback policy is **not influenced** on managing the development activities in Unawatuna Area.
 H_1 : Multiple Setback policy is **influenced** on managing the development activities in Unawatuna Area.

Development activity * set back is protect or not Cross tabulation			
Development activity	set back is protect or not		Total
	Not	Protect	
HT	5(38.5%)	2(28.6%)	7(35.0%)
MS	1(7.7%)	2(28.6%)	3(15.0%)
RS	5(38.5%)	1(14.3%)	6(30.0%)
SH	2(15.4%)	2(28.6%)	4(20.0%)
Total	13(100%)	7(100%)	20(100%)

Development activity & Set back is protect or not - Chi-Square Tests in Unawatuna			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.732 ^a	3	.435
Likelihood Ratio	2.751	3	.432
N of Valid Cases	20		
a. 8 cells (100.0%) have expected count less than 5. The minimum expected count is 1.05.			

Setback not protect column rates higher than Protect column rate.

the Chi-square value (0.435) greater than(0.05)

Chi-square test was performed Multiple setback policy **not significantly influenced** on managing Development activity within the Unawatuna beach area.



04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS



Relationship between Permit procedure and multiple setback policy

H₀: There is not a significant relationship between Issuing permit for development activity and protect particular setback of these development activities in Unawatuna coastal segment.

H₁: There is a significant relationship between Issuing permit for development activity and protect particular setback of these development activities in Unawatuna coastal segment.

permit issued or not * set back is protect or not Cross tabulation			
permit issued or not	set back is protect or not		Total
	Not protect	Protect	
Not Issued	10(76.9%)	1(14.3%)	11(55.0%)
Issued	3(23.1%)	6(85.7%)	9(45.0%)
Total	13(100%)	7(100%)	20(100%)

Rate of the permit not issued and Setback not protect cell is highest one.

the Chi- square value (0.007) Less than(0.05)

permit issued or not & set back is protect or not Chi-Square Tests in Unawatuna			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.213 ^a	1	.007
Continuity Correction ^b	4.904	1	.027
Likelihood Ratio	7.739	1	.005
Fisher's Exact Test			
Linear-by-Linear Association	6.852	1	.009
N of Valid Cases	20		
a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.15.			
b. Computed only for a 2x2 table			

Chi-square test was performed **There is a significant relationship** between setback standards and permit obtaining from development activities in Unawatuna beach



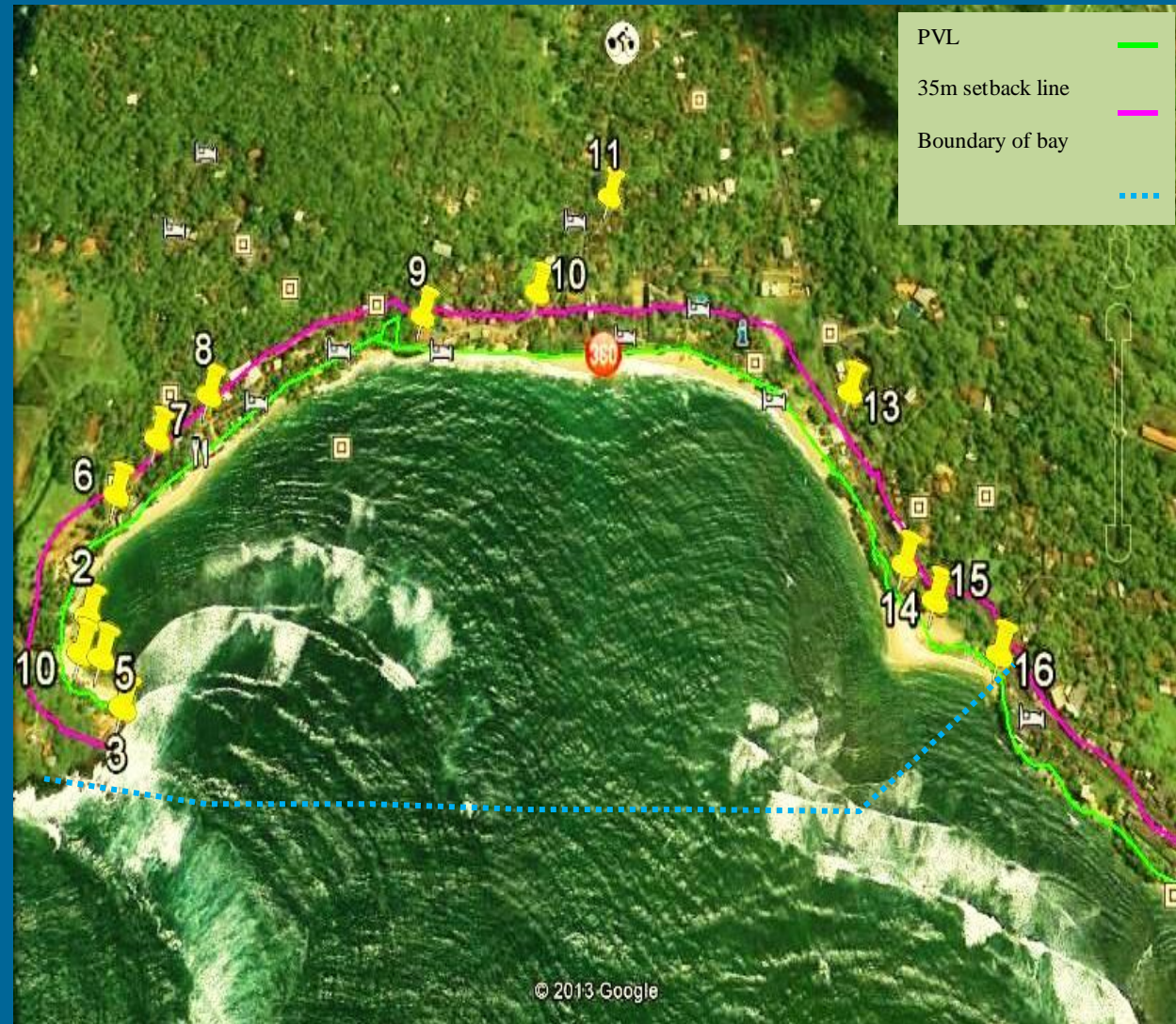
04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS

Direct observation analysis



Shows which GPS located in between PVL and 35 setbacks Line. According to permit conditions stated that ensured the stability of beach front



04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS

Direct observation analysis



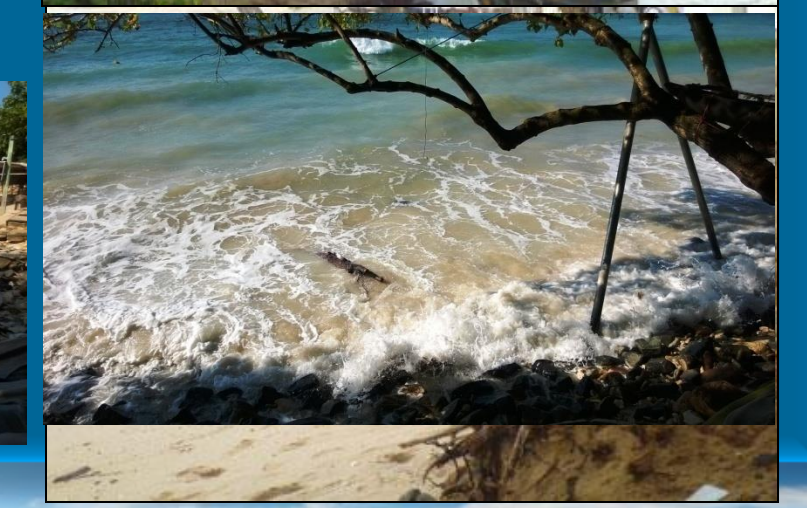
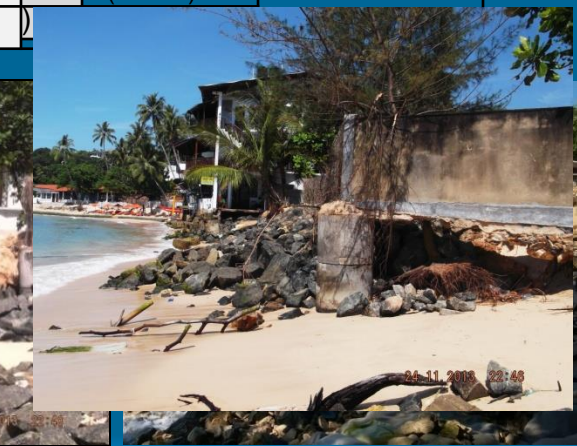
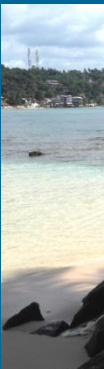
Level of Stability of the Beach front

- whether selected development activities significantly influenced or not to increase the sea erosion and al so removing the vegetations on the PVL.

Removal of Vegetation

Development activity&removal of vegetation high or low Cross tabulation in Unawatuna

Development activity	removal of vegetation high or low		Total
	Low	High	
HT	Low	High	7(35.0%)
MS	2(22.2%)	5(45.5%)	7(35.0%)
MS	0(.0%)	3(27.3%)	3(15.0%)
MS	4(44.4%)	2(18.2%)	6(30.0%)
MS	3(33.3%)	1(9.1%)	4(20.0%)



04.RESEARCH ANALYSIS & FINDINGS

PHASE 1 : CASE STUDY ANALYSIS - Conclusion



Legislative Tool

- **Development Permit procedure**
- **Multiple setback policy**
- Power of issued demolition orders
- EIA & IEE requirement

According to CCA have powerful provisions

Should Enforce the legal powers

Pragmatic & implementation basis

Questioners findings

- Low influence to manage the development activities
- Most of the Development activities established Before 1983
- Public awareness is low

Direct observation

- Level of stability of beach front became the vulnerable level.
- High Coastal erosion

Field Survey Understanding

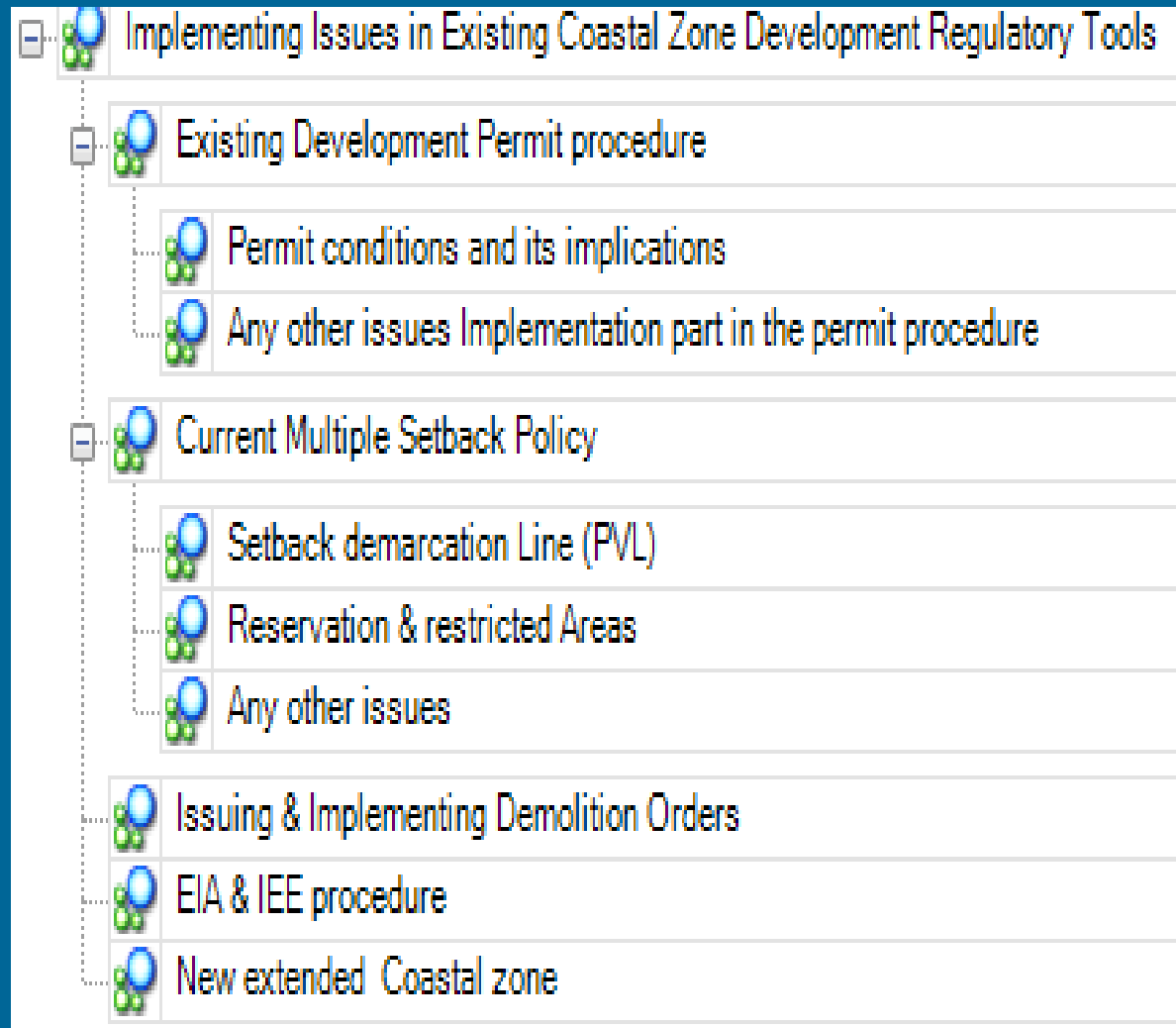
Conducting Professional survey with implementation Agency



04.RESEARCH ANALYSIS & FINDINGS



PHASE : 2 Identification of Implementing Issues in the Existing Coastal Development Regulatory Mechanism in Sri Lanka.



Purpose of the case study Analysis

- Most of the time Existing legislative applications have been violated because of the failures in the implementation stage
- selected regulatory tools were introduced by CC&CRMD
- given priority for particular implementing agency, interviewees' sample was selected.



04.RESEARCH ANALYSIS & FINDINGS



PHASE : 2 Identification of Implementing Issues in the Existing Coastal Development Regulatory Mechanism in Sri Lanka.

Existing Development Permit procedure:

Identified Implementing Issue
permit compliance monitoring

- General Permit conditions**
- Approved setback
 - Approved Floor Area and No. of Floor
 - Proposed activity Should not be obstructed existing fishing activities and Beach Access
 - Sewage or waste should not be emitted to the Beach or coastal waters
 - Ensure the stability of beach front

“The permit system should be treated as a facilitator rather than an enforcement of a command. Comprehensive public awareness should be created through knowledge of the public and to change their attitudes and behaviors”



04.RESEARCH ANALYSIS & FINDINGS



PHASE : 2 Identification of Implementing Issues in the Existing Coastal Development Regulatory Mechanism in Sri Lanka.

Other Highlighted Implementing issues of Current Multiple Setback Policy:

Identified Issue	Description of the issue
Land parcel size of developers	Most of the time developers with Small land faced to allocate their land for setback areas than large scale land.
Declaration of urban areas	UDA declared as urban areas 2km area from the PVL. therefore when develop their projects should be negotiate the CCA provisions
Potential areas for tourism	Most of Tourist areas promote with the beach. Thus needed special consideration when demarcate the setbacks in Tourism areas.
Environmental sensitive areas	Especially Mangrove areas and Sand dunes areas setback demarcation will promote ensure these sensitive coastal habitats.
Coastal segment demarcation	Coastal Segment Demarcation should be based in the GPS points. Because Currently faced some difficulties due to Boundary demarcation of segments
Institutional integration	When developed a plan or any guideline within the CZ, in any authority should be going to cooperative decision among the responsible institutions regarding the CZ development.
Climate change resilience	Develop the Climate sensitivity as the criteria for demarcation the Setbacks.



04.RESEARCH ANALYSIS & FINDINGS

PHASE : 2 Identification of Implementing Issues in the Existing Coastal Development Regulatory Mechanism in Sri Lanka.



Issuing & Implementing Demolition Orders:

Identified Implementing Issue	Description of the Issue
Issued demolition orders not implemented.	Without Alternatives removal of unauthorized structures not success

Interviewee 1 : *“Effectiveness of enforcement of demolition orders is an issue. As per the current position effectiveness of enforcement is questionable. Maintaining equal level of enforcement irrespective of social, political or economic status of the violators cannot be seen from the current implementation process.”*

Interviewee 2 : *“Currently we have implemented case by case demolition orders, But when implementing the demolition orders we are specially considering of unauthorized structures on the beach or within most close proximity to beach, because we have human been, after built small houses of poor people and also hotel owners without alternatives provided them, how practically going to that kind of decision”*



04.RESEARCH ANALYSIS & FINDINGS

PHASE : 2 Identification of Implementing Issues in the Existing Coastal Development Regulatory Mechanism in Sri Lanka.



EIA & IEE procedure:

Identified Implementing Issue	Description of the Issue
mostly attempt to only recognize the environment impacts.	Actions needed to avoiding and minimizing the identified environment impacts.

“EIA and IEE procedures are vital decision making instruments in managing coastal resources.

As per the past experiences the following areas are lacking;

- *Compliance monitoring after implementation of the project*
- *Regular monitoring of stipulated conditions by the CCD and other stakeholders*
- *No follow-up action on monitoring financial commitment of the developers to implement mediatory measures “*



04. RESEARCH ANALYSIS & FINDINGS

Conclusion

PHASE 01: Quantitative approach

Chi-Squared values basis hypothetical relationships in Unawatuna beach

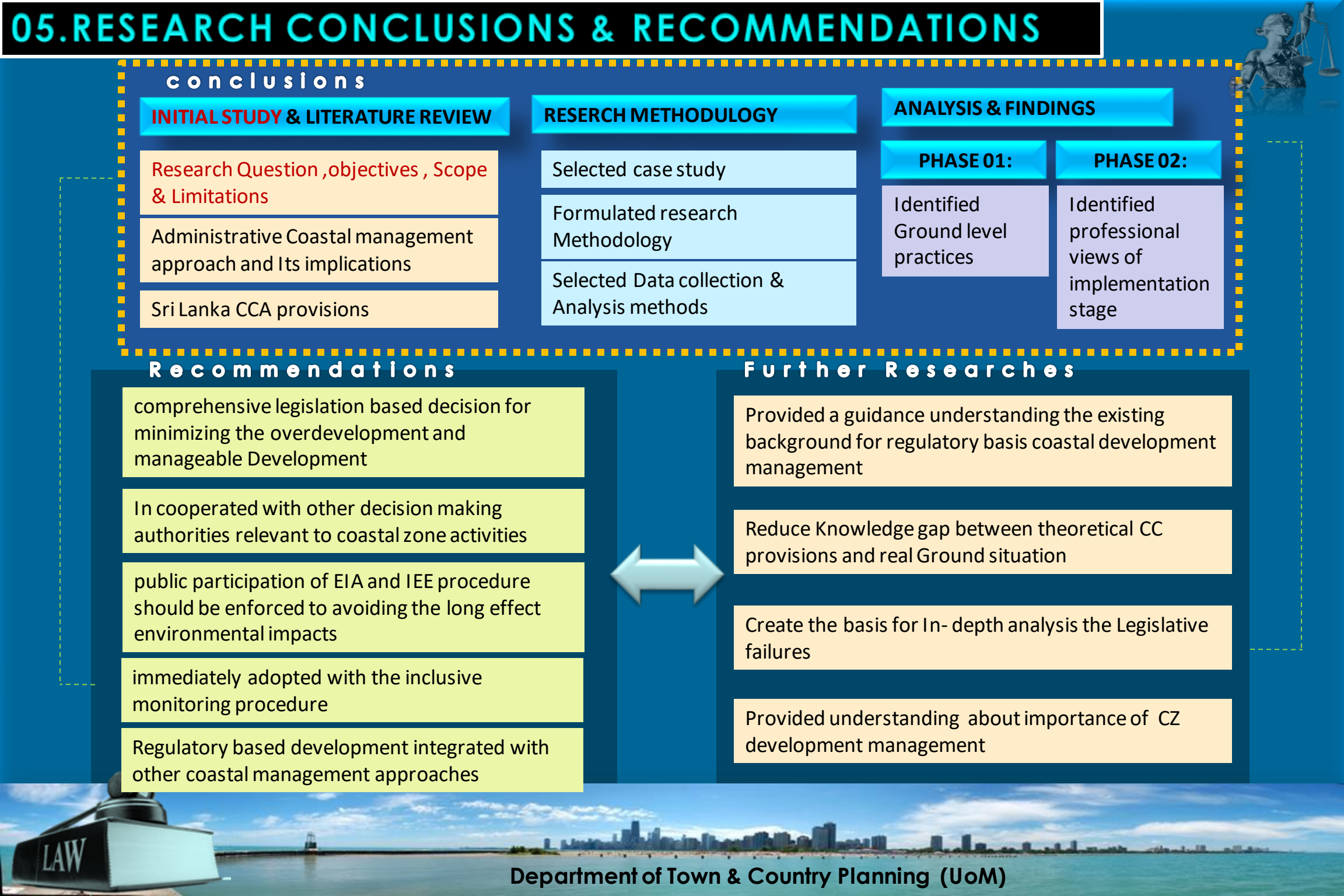
- There is not significant relationship of Permit procedure & Development activities in Unawatuna beach.
- Multiple setback policy was not influenced to managing the particular area development activities.
- Development activities which were identified in Unawatuna area most of area unauthorized.
- According to direct observation analysis, those development activities increasing the coastal erosion and removal of vegetation in that particular beach front.

PHASE 02: Qualitative approach

Identified implementing issues in existing coastal development regulatory mechanism in CC&CRMD.

- Permit compliance monitoring
- PVL setback demarcations
- Long distance Reservation & Restricted areas
- Enforcement of demolition orders
- Public awareness of the legislations
- Demarcations of the setbacks in new extended coastal zone





05.RESEARCH CONCLUSIONS & RECOMMENDATIONS

conclusions

INITIAL STUDY & LITERATURE REVIEW

Research Question ,objectives , Scope & Limitations

Administrative Coastal management approach and Its implications

Sri Lanka CCA provisions

RESERCH METHODOLOGY

Selected case study

Formulated research Methodology

Selected Data collection & Analysis methods

ANALYSIS & FINDINGS

PHASE 01:

Identified Ground level practices

PHASE 02:

Identified professional views of implementation stage

Recommendations

comprehensive legislation based decision for minimizing the overdevelopment and manageable Development

In cooperated with other decision making authorities relevant to coastal zone activities

public participation of EIA and IEE procedure should be enforced to avoiding the long effect environmental impacts

immediately adopted with the inclusive monitoring procedure

Regulatory based development integrated with other coastal management approaches



Further Researches

Provided a guidance understanding the existing background for regulatory basis coastal development management

Reduce Knowledge gap between theoretical CC provisions and real Ground situation

Create the basis for In- depth analysis the Legislative failures

Provided understanding about importance of CZ development management



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THANK YOU !



U.L.D. Sonali Dilanka