

HISTORY AND STATUS OF BUILDING CODES IN THE CARIBBEAN

Trinidad and Tobago Bureau of Standards (TTBS)

"Sustainable Construction in Commercial Buildings through Building Codes & Standards"

Workshop at COPANT GA - Sandals Grande St Lucian Spa & Beach Resort - April 23rd 2013

OUTLINE

- Introduction
- Early Developments
- Regional Model Code - CUBiC
- Code development & status - OECS countries
- Code development & status – Non OECS
- IBC-based Code formulation initiatives
- Summary

INTRODUCTION

MAP OF THE CARIBBEAN

CARIBBEAN MAP

www.paradise-islands.org



Paradise



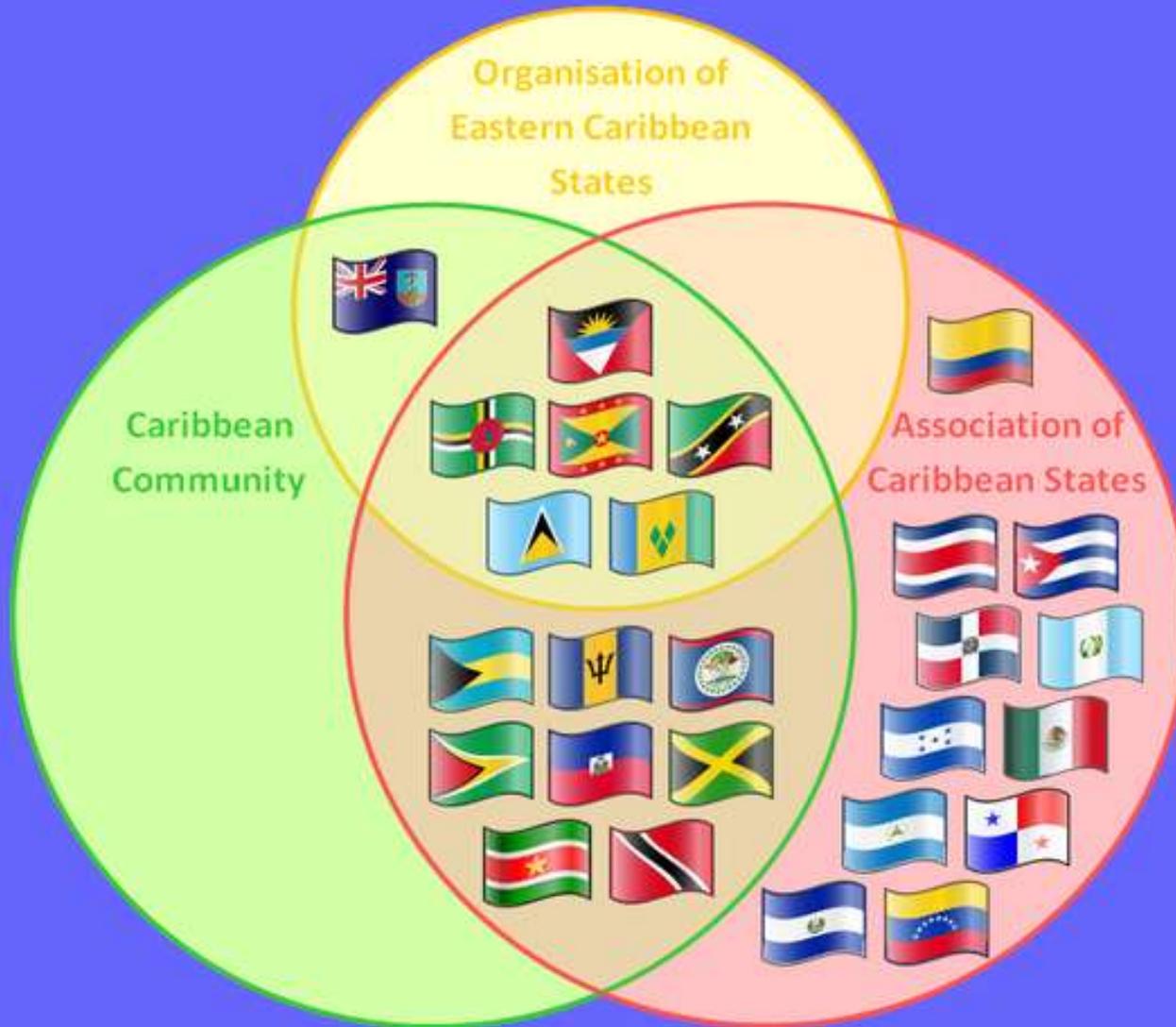
Paradise ????



Faustian Bargain?



REGIONAL GROUPINGS



CARIBBEAN/CARICOM/OECS

#	CARIBBEAN COUNTRIES	CARICOM	OECS	CDB
1	ANGUILLA			Y
2	ANTIGUA & BARBUDA	Y	Y	Y
3	BAHAMAS	Y		Y
4	BARBADOS	Y		Y
5	BELIZE	Y		Y
6	BRITISH VIRGIN ISLANDS			Y
7	CAYMAN ISLANDS			Y
8	DOMINICA	Y	Y	Y
9	GRENADA	Y	Y	Y
10	GUYANA	Y		Y
11	JAMAICA	Y		Y
12	HAITI	Y		Y
13	MONTSERRAT	Y	Y	Y
14	ST. LUCIA	Y	Y	Y
15	ST. KITTS & NEVIS	Y	Y	Y
16	ST. VINCENT & THE GRENADINES	Y	Y	Y
17	SURINAME	Y		
18	TRINIDAD & TOBAGO	Y		Y
19	TURKS & CAICOS			Y

EARLY DEVELOPMENTS

EARLY NATIONAL REGULATIONS

- ⦿ Pre-1960s – Most islands under colonial rule
- ⦿ Historically European-based legislation for buildings focusing more on health aspects
- ⦿ Building Acts/Regulations - for main cities or for the entire island
- ⦿ Building Approvals spread through differing agencies
- ⦿ Some Caribbean States now have Building Codes but legislation need to be updated

EARLY REGIONAL CODE INITIATIVES

- 1960's I.D. of the need for proper building design and establishment of CCEO (BAPE, JIE, GAPE, APETT)
- 1970's Regional conferences on earthquakes & start of Code development activities
- 1980's Regional Building Code - Project formulation, funding & execution
- 1985 Parts of CUBiC completed and published

REGIONAL MODEL CODE CUBiC

CONTENTS OF CUBiC 1985

- ⦿ Part 1 Administration and Enforcement of the Code (Published)
- ⦿ Part 2 Structural Design Requirements (Published)
- ⦿ Part 3 Occupancy, Fire Safety and Public Health Requirements (Published)
- ⦿ Part 4 Services, Equipment and Systems (not completed)
- ⦿ Part 5 Small Buildings and Prefabricated Construction (not completed)

CUBiC - THE PROS AND CONS

THE GOOD

- First attempt at a Regional Building Code
- Main Parts published (Occupancy, Fire, Safety & Structural Requirements)
- Used as a base document in developing OECS and individual National Building Codes

THE BAD

- Too many volumes: not user-friendly
- Some parts not addressed – e.g. Small Buildings
- Only used sparingly by professionals
- No updating mechanism

CODE DEVELOPMENT AND STATUS IN OECS COUNTRIES

EASTERN CARIBBEAN STATES

- OECS Countries - Antigua & Barbuda, Dominica, Grenada , Montserrat, St Kitts & Nevis, St. Lucia, St Vincent & the Grenadines (BVI and Anguilla)
- OECS Model Building Code and Guidelines – developed in 1992 (revised 1995, 1996) through a funded project (UNDP)
- Most OECS Countries adopted/adapted the Model Building Codes & Guidelines
- Several OECS countries still working on enforcement legislation

OECS



OECS COUNTRIES – CODE STATUS

COUNTRY	BLDG CODE	BASE DOCUMENT	ENFORCEMENT	REMARKS
ANTIGUA & BARBUDA	YES	OECS BC&G	Adopted by Cabinet Enforced by Development Control Authority	
DOMINICA	YES	OECS BC&G	No Legal Mechanism	Partially used. Revision planned for 2013/2014
GRENADA	YES	OECS BC&G	None (draft Legislation)	Revision in progress (<i>est</i> 2014)
ST. KITTS & NEVIS	YES	OECS BC&G	YES (5 Building & 3 Dev. Control inspectors)	Bldg Code Act due for revision
ST. LUCIA	YES	OECS BC&G		
ST. VINCENT & THE GRENADINES	YES	OECS BC&G	Adopted in 2008 Enforced since 2010	

CODE DEVELOPMENT
AND STATUS
IN OTHER COUNTRIES

Recent Building Code Drivers

- ① Seismic Hazards
- ① Hurricane Hazards
- ① Sustainability Issues (energy conservation and green construction)

NATIONAL BLDG CODE - STATUS

COUNTRY	BUILDING CODE	BASE DOCUMENT	CURRENT WORK	ENFORCEMENT
BAHAMAS	BAHAMAS NBC	FLORIDA BLDG CODE		ENFORCED
JAMAICA	ISSUED 2009	IBC 2003	IBC 2009 Revision ongoing.	LEGISLATION PENDING
BARBADOS	ISSUED 1993	CUBiC, Scottish Bldg Code.	2013 Revision Completed	LEGISLATION PENDING
GUYANA				
TRINIDAD & TOBAGO	SMALL BLDG GUIDE 2006	OECS etc.	2013 Revision ongoing	LEGISLATION PENDING
TURKS & CAICOS	ISSUED 1990/91	CUBiC etc.	REVISIONS SINCE 1991	ENFORCED
CAYMAN ISLANDS	Suriname NBC 2003	USA/European Codes	2010 Revision initiated	
PUERTO RICO	ISSUED 1999 REVISED 2011	IBC 2009		ENFORCED
HAITI		IBC	2011 Work Initiated	Pending approval Resource constraints

IBC-BASED CODE FORMULATION INITIATIVES

International Building Code (IBC)

● Model Building Codes

- Building Code developed and maintained by a SDO independent of the jurisdiction (ICC, UPC, NFPA, NBCC, EuroCode)

● IBC widely adopted throughout the USA.

- IBC is adopted widely throughout the USA
- References the relevant ASCE (wind/seismic codes)
- Also adopted by Puerto Rico, Jamaica, Republic of Georgia and UAE.
- IBC published by International Code Council

Factors influencing IBC preference

- ① Language and proximity
- ① Existing use of US construction products
- ① Similar hazards – Seismic/Wind
- ① Code Revision and Support
 - Training
 - Code Commentaries and Handbook
 - Product Certification Service
- ① Application Documents (NADs)
 - Technical amendments to adapt the IBC for local & regional use

JAMAICA NATIONAL BUILDING CODE

- ◎ BSJ/JIE initiative in 2002
 - Based on IBC and related ICC Codes
 - Use NAD approach
 - Completed 11 of 13 NADs
- ◎ Revision exercise 2009
 - Status
- ◎ Enforcement
 - Legislation status
 - Future plans

TRINIDAD & TOBAGO NBC

- ◎ 1970s - early efforts
- ◎ 1990s – efforts resulted in SBG:2006
- ◎ Existing National Building Code Project
 - Gov't funding for IBC-based approach
 - National Building Code Steering committee
 - Professional Assoc, Gov't agencies, NSB
 - Project schedule/budget/process/outputs
 - NAD approach
 - Code Areas
 - IBC (Structural, Occupancy, Fire Safety)
 - Mechanical, Plumbing, Accessibility, Green

Regional Building Standards

- ◎ RBS project (2007)
 - Scope
 - IBC, IRBC, IEBC. review and development of CADs
 - Member states of CROSQ
 - Hazard Maps - Wind, Seismic, Flooding, Rainfall
 - Several setbacks

- ◎ Reformulation of project (ongoing, 2011)
 - New approach
 - Expanded Scope
 - IBC, IRBC, IEBC + **GREEN CODE**
 - CROSQ + CDB burrowing members

SUMMARY

- ⦿ Post Colonial
 - Building regulations
 - Progressed to Code development activities
- ⦿ CUBiC (1980's – 1990's)
 - CUBiC and OECS Building Code
 - National initiatives based on CUBiC/OECS
- ⦿ Current (2000's)
 - Piecemeal adoption of IBC
 - Revision of CUBiC
- ⦿ Future
 - Regional move to IBC

THANK YOU

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