LAND TENURE SYSTEMS DEVELOPMENT IN HAZARD VULNERABILITY REDUCTION FOR CARIBBEAN STATES

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Presentation Outline

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Background of Study

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- The existing land tenure arrangements for St. Vincent & the Grenadines (SVG) do not sufficiently support comprehensive disaster management.
- This is particularly due to the inadequacy of the deeds registration system – on the basis of its inability to generate greater numbers of secure tenures within the poorest and most vulnerable communities within shorter/ more practical timeframes.

Objectives of Study

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Core Objective

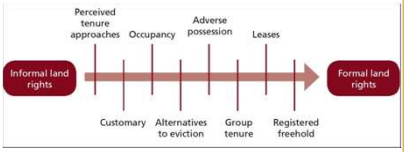
- To show that where land tenure is recorded, recognized and respected, there is a greater likelihood of personal investments in mitigation and reconstruction – thus reducing vulnerability.

Vulnerability Equation:

V = Exposure + Susceptibility - Resilience

Specific Objectives

- To outline the likely impacts of the deeds registration system on vulnerability reduction; and
- To show that the range of property systems in St. Vincent & the Grenadines demand the use of pro-poor land tools.



The Continuum of Land Rights

Pretesting: Diego Martin

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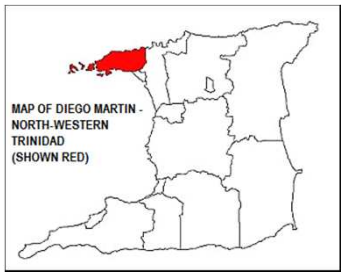
Diego Martin is a flood-prone region within the North-Western section of Trinidad & Tobago. The area is characterized by steep slopes and floodplains.

Approximately 28,000 persons within 20 communities – Most being Diego Martin Communities – were directly affected by a major flood event on August 11th, 2012.



Damages: TT$100 million (US$17 million).

Population (Diego Martin): 105,720 (2006 Estimate)

Population (St. Vincent & the Grenadines): 120,000 (2010 Estimate)

Pretesting: Diego Martin

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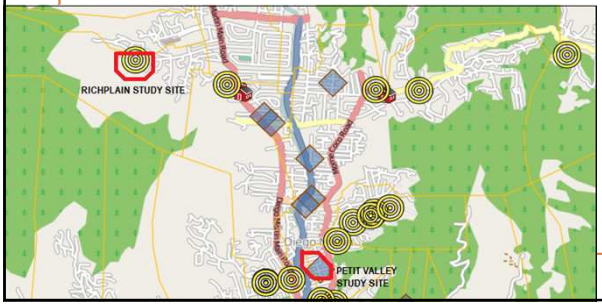
- Sites: Richplain and Petit Valley.
- Richplain has approximately 727 households, with Petit Valley having some 2721 households.
- Richplain: 11 flood-affected households –1.5% of the total number of households.
- Petit Valley: 28 flood-affected households –1.2% of the total number of households.
- This pretest was carried out on the 13th and 14th October, 2012.



This map shows the location of the Richplain and Petit Valley study sites in relation to each other. (This map is aligned north)

Pretesting: Diego Martin

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Lessons Learned:

1. The first is that regardless of an individual's socio-economic condition, tenure security remains a major determinant of their willingness to invest in their property pre/ post disaster.

2. The second refers to the strong sense of community exemplified by residents of Richplain (low income community) – thus presenting a strong case for participatory enumeration.

Main Study Area

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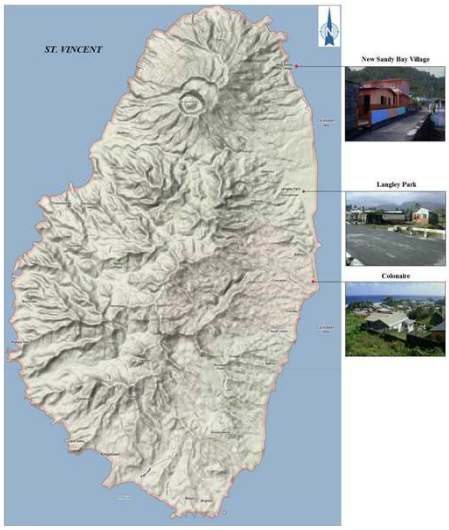
The impact of Hurricane Tomas in October 2010 was significant enough for the government to declare disaster areas within the northern section of the mainland.

Given the geographical concentration of the agricultural sector in the northern part of the island, the most significant economic impact was felt in that sector. Losses were estimated at US$25 million, with the banana industry recording the most significant losses.

Official figures revealed that 26% of the country's total population was severely affected – though not displaced – by the impact of Hurricane Tomas.



Study Area 1: New Sandy Bay Village

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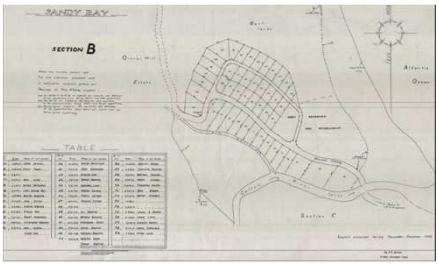

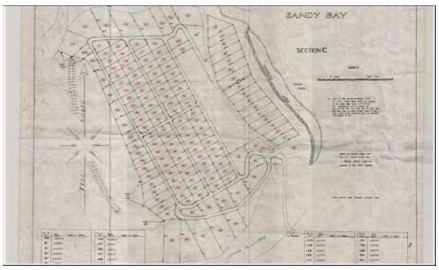

Study Area 2: Colonaire

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Demand for Relocation

State Response (Provision of Low-Income Housing)

Demand for Mitigation and Repair/ Reconstruction

Study Area 3: Langley Park

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State Response (Mitigation)

Demand for Mitigation and Repair/ Reconstruction

Data Collection

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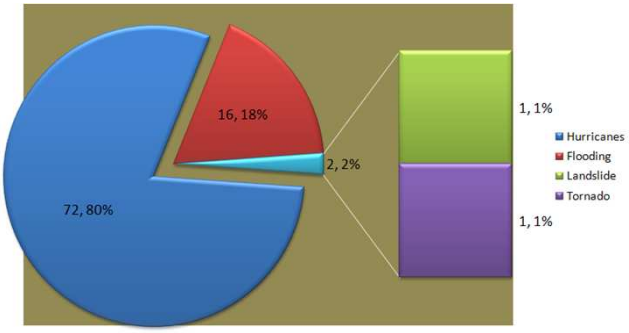
- The field survey was performed January 5th – 10th, 2013.
- It incorporated the use of structured interviews.
- A total of 110 households were interviewed.



Data Collection

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- Majority of persons affected:
  - Included small-scale farmers (earning less than EC$1000/ US$370 per month);
  - Labourers within the local construction industry (earning less than EC$1000/ US$370 per month);
  - Junior-level public servants; and
  - Micro-enterprise operators.

- With the majority of the sample population being classified as low income, their low coping capacity and resilience are likely to create unsafe conditions that in-turn negatively impact their vulnerability.
- This study pays particular attention to the effect of an individual's perception of tenure security on their vulnerability.

Data Analysis & Results

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- Cross tabulation and the Chi-Square test were used to define two main relationships:
  - Whether or not the possession of a deed affects respondents' perception of their safety; and
  - Whether or not the possession of a deed affects the method of recovery that households would have opted for.

Chi-Square, $X^2 = \sum \frac{(o-e)^2}{e}$

Data Analysis & Results

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Statistical Test: Deriving p-value

- Case 1 – Null Hypothesis:
  - *There is no relationship between a given household's sense of safety (from hurricanes, storm surges or floods), and being in possession of a deed.*
  - At the 95% significance level, the *p-value* was computed as *0.6424* (Table 1). The null hypothesis is accepted.

Table 1

Count	Deed				
Property Safe	NO	Rent	Unsure	YES	Grand Total
NO	30	2	4	33	69
YES	18			23	41
Grand Total	**48**	**2**	**4**	**56**	**110**
Expected					
Property Safer	NO	Rent	Unsure	YES	Grand Total
NO	30.109	1.2545	2.5091	35.127	69
YES	17.891	0.7455	1.4909	20.873	41
Grand Total	48	2	4	56	110
p	0.6424				

Data Analysis & Results

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Case 2 – Null Hypothesis:

- *Households have no preference towards a given method of disaster recovery on the basis of the possession or non-possession of a deed (assuming that the deed is in fact a symbol of tenure security).*
- The *p-value* derived for this second Chi-Square Test was *0.01783* (Table 3). It therefore meant that at the 95% significance level, the Null Hypothesis was rejected.
- There is a strong relationship between possession of a deed and the preferred method of disaster recovery.

G = Government Assistance			
P = Personal Funds			
ND = No disaster Impact			
NR = No Repairs/ Reconstruction			
Count of Household	Deed		
Method of Recove	NO	YES	Grand Total
G	27	13	40
ND	7	13	20
NR	3	9	12
P	17	21	38
Grand Total	**54**	**56**	**110**
Expected	Deed		
Method of Recovery	NO	YES	Grand Total
G	19.6364	20.4	40
ND	9.81818	10.2	20
NR	5.89091	6.11	12
P	18.6545	19.3	38
Grand Total	**54**	**56**	**110**
p-value	0.01783		

Table 3

Data Analysis & Results

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- Referring to the cross tabulation in the previous case (where the alternative/ proposed hypothesis was accepted), we can reasonably determine the specific effects of the possession or non-possession of a deed on the method of recovery opted for.

Count of Household	Deed	
Method of Recovery	NO	YES
G	67.5	32.5
ND	35	65
NR	25	75
P	44.7368	55.3

Table 4

- *The percentage of persons with deeds who utilized personal funds for recovery (55.3%) was slightly larger than those without deeds (44.7%). It must be acknowledged that such may have arisen due to certain dynamic pressures – such as the high cost of materials and labour.*
- *Row percentages for households that had not carried out repairs (at the time of the study) indicate that 75% of such households possessed deeds. This is likely to be the result of persons without deeds having a greater inclination to access Government assistance.*

Data Analysis & Results

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- We can therefore infer that:
  1. Households with deeds are less likely to depend on Government assistance for disaster recovery and mitigation;
  2. Households with secure tenure are less likely to be adversely affected by natural hazards; and
  3. Households with deeds are more likely to utilize personal funds for disaster recovery and mitigation.

Photo 1

This female (single-parent) household head, spoke of her previous intentions of investing in a retention wall to protect her property from the nearby river (Photo 2). She is however yet to complete the process of obtaining her deed.

Photo 2

The Way Forward

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This study has identified a four-part criterion for the pre-implementation assessment of the STDM in St. Vincent & the Grenadines. It comprises:

- The legal context;
- The social context;
- The cost implications; and
- The technical requirements.

LEGAL CONTEXT

SOCIAL CONTEXT

COST IMPLICATIONS

TECHNICAL REQUIREMENTS

The Way Forward

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- The assessment of each of the four criteria can be performed by examining the framework of the STDM.
- In this case, the framework refers to:
  - The forms
  - The questions
  - The categories (the range of recordable social tenure relationships).
- This allows us to identify a holistic range of considerations.

POLICY CONSIDERATION

INSTITUTIONAL CONSIDERATION

COMMUNITY CONSIDERATION

The Way Forward

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Such categorization allows us to readily identify at which level and in which order each consideration would need to be addressed for the successful implementation of the STDM.

- It is understood that at each stage of the project's implementation, there may be a combination of considerations (Table 1).
- This is intended to uphold the principles of the STDM (equity, transparency, and inclusiveness) while maintaining the integrity of the process.

	STAGE		
	1	2	3
ACTIONS	Policy consideration 1	State institutional Consideration 1	Community consideration 3
	Community consideration 1	State institutional Consideration 2	Community consideration 4
	Policy consideration 2	Community consideration 2	State institutional Consideration 3

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Conclusion

Without secure tenure, the poor appear to have little to no incentive to invest in their properties.

Pro poor land tools - such as the STDM - offer poor households and communities the privilege of knowing that their land tenure rights are protected, and that such a service is offered at a price they can afford.




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Conclusion

Vulnerability reduction at the household level therefore starts with the empowerment of people and communities. The simple recordation, recognition, and respect of people's rights in land give them the impetus to invest in reconstruction and mitigation, thus reducing vulnerability.