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Abstract

The impact from climate change may be more severe in developing countries, such as Guyana, where there is a high level of poverty, creating potential risks like damages to ecosystems, water resources and coastlines, impacts on food resources, particularly food crops, and health. At the community level, climate change damages are often centred on the environment, which is the main source of livelihood for rural communities. Livelihood opportunities DUH RIWHQ LQVWLWXWHG LQ WUDGLWLRQDO DFWLYLWLHV VXFK DV DJURIRUHVWU VXFK DV WRXULVP PRQRFXOWXUH DJULFXOWXUH DQG ODUJH VFDOH to climate change faced by two indigenous communities of Santa Rosa and Waramuri along the coast of Guyana; GRFXPHQWHG FOLPDWH FKDQJH YXOQHUDELOLWLHV WKDW DUH OLQ NHG WR FRPF current indictors as well as potential coping strategies to climate change used by these communities.

Keywords:Adaptive capacity; Climate change; Coastal community[6]. Fluctuation in weather patterns can increase food prices, a social and nancial dilemma for the poor. Globally, a 2°C rise in temperature could cost about 1% of the world's GDP [7].

Introduction

In Guyana, temperatures have transcended the norm within the Global average surface temperatures have increased by 0.6°C with the century (1909-1998) with an increase by 1°C in mean annual the 20th

countries such as China and India [2].

temperature [8]. Impacts from climate change create potential risks such as damages to food and water resources, ooding of populated

Consequently, adaptation strategies to cope with the impastlines, and the impairment of ecosystem services [9], and the latter climate change will be crucial [3]. e availability and accesso transfer be basis for many traditional livelihood opportunities such as necessary human, social, natural and nancial resources determinestry, hunting, gathering, and shing. Of the poor communities the strength of a community, their vulnerabilities and their availability the ten (10) administrative regions of Guyana, communities capacity in Regions 1, 8 and 9 were deemed the poor formation and the main services and the strength of a community is the strength of a community in Regions 1, 8 and 9 were deemed the poor formation and the strength of a community is the strength of a community in Regions 1, 8 and 9 were deemed the poor formation and the strength of a community is the strength of a community in Regions 1, 8 and 9 were deemed the poor formation and the strength of a community is a strength of a community is the str

In Regions 1, 8 and 9 were deemed the pool rest as their main economic livelihood is derived from agriculture and forest sectors. As inhabitants), which reduces food supplies as sea water moved upstream into agricultural areas and crops failed.

According to Wahlström and Weber [12]:

"e most severely a ected areas are Region 1 (north-west) and Region 9 (south-west), home to some 23,000 indigenous Amerindians,

¹ [4]. Poor communities o en do not have access to all or

some of these vital resources, augmenting the vulnerability imate

change [5]. For example, poor communities o en thrive on agricultural

resources. Warmer temperatures lengthen growing seasons and increase carbon dioxide in the air which produces higher crop yields Natural Sciences, University of Guyana, Turkeyen Campus, Guyana, South while simultaneously decreasing soil moisture which creates shi s in merica, E-mail: michellek@bbgy.com

production patterns and the need for man-made irrigation systemBeceived March 07, 2012; Published December 05, 2012

¹Adaptive capacity refers to the ability of a system or a community to adjust to climate change effects, to moderate potential damages, to take advantage of opportunities, or to cope with the consequences [3].

²Vulnerability is the degree to which a system (or a household or a community) is susceptible to, and unable to cope with, adverse effects of climate change [3]. ³This assessment is based on the Enumeration District Marginality Index (EDMI) and the Living Conditions Index (LCI) [10].

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Methodology

Because traditional knowledge is fragmented, and to some extent, neglected, learning of the di erent coping strategies by indigenous communities is limited [19]. e aims of this paper are, therefore, to document the climatic vulnerabilities that are linked to communities' livelihood; and identify historic and current indictors and potential adaptive strategies to climate change used by two (2) indigenous communities within the poorest region (Region 1) of Guyana. e two (2) communities, Waramuri and Santa Rosa, were selected based on their dependence on climate sensitive livelihood activities such as subsistence farming, shing and hunting; proximity to the coast, population; potential vulnerability and accessibility.

e methodology used for this research was the Climate Vulnerability and Capacity Analysis (CVCA) methodology [20]. e CVCA allowed for analyzes of vulnerability to climate change and the adaptive capacity at the community level through a combination of community knowledge and scientic data to yield a greater understanding about local impacts of climate change and devising solutions. is method also assesses the role of local and national institutions in facilitating adaptation. CVCA was considered very interactive, allowing for participatory actions from community members in an informal setting using local dialect. In essemeeyd^{the} sits and talksⁿ. Establishment of focus groups in each community (one per community) was essential. is allowed for other tools to be implemented by the authors including:

- 1. Construction of a hazard map: a map outlining threats and resources;
- 2. Creation of a seasonal calendar: to identify periods of stress, hazards, diseases, hunger, debt, vulnerability, etc.;
- 3. Development of a community historical timeline: to allow insight into past hazards, changes in their nature, intensity and behaviour;
- 4. Development hL10516. /SpanDever /9 2I9Vm23]TJ EMC /pme

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1 and 2 for organisations functioning within Waramuri and SantaConservation Society (GMTCS), the Guyana Election Commission Rosa respectively). Organisations include the Guyana Marine Turtle

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