



Migration, land use and forest change in St. Lucia, West Indies



Bradley B. Walters*

Department of Geography & Environment, Mount Allison University, 144 Main Street, Sackville, N.B. E4L1A7, Canada

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ABSTRACT

Migration is a central feature of Caribbean societies, yet its consequences for land use and forest change have been little studied. This paper reviews the general history of human migration in the West Indies and its relationship to land use. It examines the case of post-war St. Lucia, in particular, focusing on the relationship between migration, land use change and forests in two watersheds. Out-migration to the UK and North America from 1950s–1970s contributed to reduced farming and increased upland afforestation. In the 1990s and early 2000s, a huge wave of farmland abandonment and ensuing afforestation swept across the island, triggered by WTO rulings that sharply eroded existing export markets for bananas, the country's dominant crop. These effects were compounded by growing shortages of agricultural labor as men and women departed the countryside to work in the fast-growing, domestic construction, tourism and related service sectors. Since the late 1980s, a kind of 'boomerang urbanization' has occurred in which the return of earlier cohorts of out-migrants (who had departed rural areas to overseas urban centers in the 1950s, 60s and 70s) has fueled a residential home construction boom back home that is transforming extensive lowland agricultural lands and natural forests near the coast to peri-urban suburbs, while contributing to upland afforestation by drawing labor out of farming. This dramatic shift of environmental impacts away from the uplands to the lowlands and coasts appears widespread within the island Caribbean, but policy makers have been slow to acknowledge and respond to it.

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1. Introduction

Migration has long been a defining feature of Caribbean societies (Carnegie, 1982; Momsen, 1986; Watts, 1987; Richardson, 1992, 2004). In particular, the movement of people to-and-from the countryside has profoundly influenced – both directly and indirectly – rural populations, farming practices, land use, and the ecological character of small islands throughout the region (e.g., Lowenthal and Comitas, 1962; Rubenstein, 1975; Marshall, 1982; Kimber, 1988). Yet, the environment typically occupies little more than background in the vast majority of Caribbean studies of human migration. The socio-economic and cultural dimensions of migration have been studied thoroughly, but with the exception of Puerto Rico there has been little research that specifically examines the influence of migration on land use and environmental change in the island Caribbean.

This paper examines interactions between migration and environmental change in St. Lucia, drawing-upon findings from a larger study of agriculture, forest and land use change in this small-island

nation. This research documented post-war changes in the landscapes of two island watersheds and sought to explain these in terms of relevant socio-economic causes (Fig. 1). Human migration was found to exert significant influence on labor dynamics, land use and forests, albeit this influence was often indirect and difficult to separate from other causal factors, including land tenure and changes in agricultural commodity markets. This paper attempts to tease-apart migration's particular role, but interested readers should seek related articles for a more complete story (see Walters, 2012, 2016; Walters and Hansen, 2013).

In short, the historical transformation of St. Lucia's landscape to a predominantly agricultural one was made possible by substantial in-migration. But with the exception of the banana boom, the predominant trend since the 1950s has been rural out-migration, agricultural decline, and reforestation. This trend has continued in recent decades with the return of large numbers of former overseas migrants who typically do not farm but invest in new residential homes and small businesses in fast-expanding, peri-urban areas, which draws even more labor out of farming. Thus, a kind of 'boomerang urbanization' has unfolded, wherein people departed an agrarian-rural environment to an overseas urban place only to

* Corresponding author. Fax+1 5063642625.
E-mail address: bwalters@mta.ca

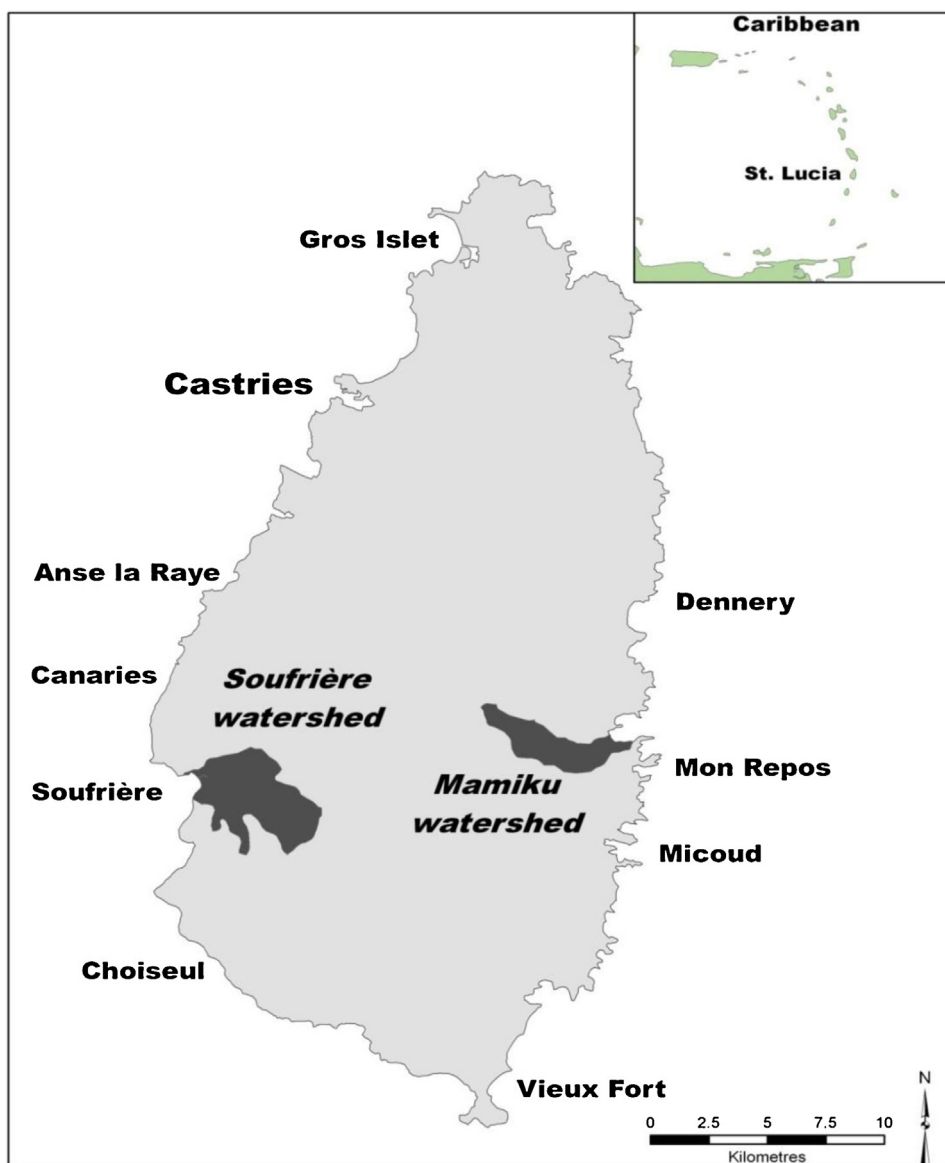


Fig. 1. Map of St. Lucia showing study watersheds.

return home thirty years later to a different, increasingly urbanized place.¹

The next section describes research methods. This is followed by three sections which review aspects of the wider literature, notably: the relationship between migration, land use and tropical forests; key events and trends in West Indian migration; and the relationship between migration, agriculture and land use in the West Indies. I then present case study findings on the relationship between migration, agriculture and forests in St. Lucia, with an emphasis on post-1950 changes. The paper concludes with a discussion.

2. Research methods

Detailed descriptions of methods used for the case study can be found in Walters (2012) and Walters and Hansen (2013). Briefly, the field study component focused on two watersheds, one on

the west side (Soufrière) and one on the east side (Mamiku) of the island (Fig. 1). Near-comprehensive, aerial-photo coverage for both watersheds (1966, 1977, 1992, and 2004) plus recent satellite imagery (2009/13) were combined with field observations from 2006 and 2015 to assess trends in land use/status over time. Field-based measurements of vegetation, topography and land use were obtained by sampling with a quadrat-census plot (100 m²) in a stratified grid across each watershed (1000 m by 500 m apart), which obtained 56 independent census plots (34 in Soufrière and 22 in Mamiku). Within each sample plot, all natural and planted trees (>2.9 cm dbh) were measured, mapped and identified by species ($n = 1699$ trees) and measures of canopy height and structure and ground cover were taken. Information about land tenure, land holding size, and land use history of each site was sought through interviews with local farmers and by consulting official land registry maps.

Interviews and primary archival work were conducted in 2006, 2007, and 2015. In total, 43 farmers (37 smallholders and 6 estate) were interviewed within the two study watersheds using a semi-structured format to document their knowledge of agriculture, land use, etc., and to interrogate their interpretations of changes in

¹ I am grateful to Tom Rudel for proposing the concept of “boomerang urbanization”.

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