1. INTRODUCTION

1.1 RECALLING THE PREVAILING PARADIGM

Rwanda's mountainous landscape scenery is unique. Nowhere else along the Great African Rift Valley did the interplay of tectonic forces, volcanic eruption and millions of years of erosive precipitation shape a similar topography. Despite the small size of the country, there is a mosaic of diversified vegetation unlike any other in Africa. It encompasses extensive savanna, cloud forests on steep volcanic slopes, the biggest range of primeval forest in East Africa, papyrus marshes, wide river pastures forming the upper reaches of the White Nile, and small agrarian plots one next to the other across all regions.

1.1.1 Forested landscapes of Rwanda

In films (Townsend, 2010; Liu & Augenstein 2010; Umuhoza, 2018;), in history books (Schoenbrunn, 1998; Newbury, 2009) and in today's scientific literature (Whyss, 2006; Habiyaremye, 2011; Huggins, 2004) one can find descriptions and depictions of a historical forest-covered Green Heart of Africa. Here is a place in equilibrium with nature which is home to numerous different ethnic tribes.

> Large areas of this zone [the Congo-Nile Divide] remained forested until recently, and the very presence of this forest contributed to the conditions of its own preservation. (Newbury, 2009, 287)

"Unlike many other wildlife areas of Africa, these forests [the Virunga Mountains] were probably never previously settled" (Spinoke, 1972, 195). With the population explosion in the 20th century – so the established narrative goes – a fatal degradation of the natural environment began. Large areas of land were cleared of trees causing loss of soil fertility and hydrological function. For a large number of the population already living in hardship, their livelihoods were further exacerbated and became, in the most Malthusian of narratives, one of the main triggers for the 1994 Rwandan genocide. A downward spiral consisting of a lack of arable land and extensive deforestation transformed Rwanda, the "once greenest place in Africa", "where God goes to sleep" after finishing his work, into a tragedy of a singular dimension in history (Sebarenzi, 2009, 103).

Almost universally, the loss of forest cover in Rwanda has been explained by the continuous population growth. With this logic, the inversion of the argument must also be true. With less population pressure on the land, more of the natural landscape should have remained. For decades, forest transition models seemed to

give the scientific underpinning and plausible explanation for the direct correlation between the decrease in natural vegetation and the increase in population density (Meyer & Turner, 1992; López-Carr & Burgdorfer, 2013; Schütze, 2020). The logic of more people – more deforestation, or in reverse, the fewer the people, the more intact the forest cover, has become the lead narrative in describing and framing the landscape history of Rwanda throughout the 20th and 21st century. The introductory sentence of Rwanda's country profile by the United Nations Food and Agriculture Organization is an example:

> Forest resources in Rwanda have steadily decreased over time, especially since the beginning of this century, due to rapid population growth, a limited land base and growing competition for resources. (FAO, 1996, s.p.)

Along the same lines, the United Nations Environment Programme states:

> Rapid deforestation and conversion of natural habitats to agricultural systems has caused a loss in the variability of ecosystems. Biodiversity loss in Rwanda is severe and mainly due to the progressive disappearance of national parks and large-scale habitat destruction. Specifically, natural forests have declined by 78 per cent since 1990. (UNEP, 2005, 3)

Similarly high rates of forest loss are being communicated by development agencies, such as the USAID.

> The present [forest] policy was formulated in 2004, a year after the end of the transitional government. It came into effect after the country had lost two-thirds of the forest estate over four decades. (USAID, 2008, 9)

In a one-sentence formulation, the correlation between demographic pressure and the intact natural environment is often stated as the following:

> Key findings include that Rwanda has lost 60 percent of its natural forest area since independence [1962], driven mainly by the needs of a fast-growing population for land, timber and firewood. (UNEP, 2011c, s.p.)

A broad variety of institutions, with great authoritarian influence in shaping development discourses, seem to communicate a degradation narrative along similar lines.

The findings can also be geo-referenced and expressed in the visual dimensions of cartography. Satellite supported data seem to be able to further verify and detect forest losses. Due to the unavailability of technology before the 1970s, when the first comprehensive earth land-surface cover program, Landsat, was initiated, these