The aim of this paper is to study changes in land use and the evolution of vegetation in Cacheu River Mangroves Natural Park in the Republic of Guinea-Bissau. To do this, we will study variations in the NDVI, Normalized Difference Vegetation Index. In order to perform the calculations and subsequent analysis, images from three years—2010, and 2017—were used, all corresponding to the same time of year so that the phenological stage is the same. To perform a more reliable analysis, the park was divided into five classes based on the main use of the land: mangals, palm forest, paddy fields, savannahs and others. Using a statistical sample, same areas were selected for each class and the corresponding NDVIs were calculated for the years in which ASTER images were available. The study made it possible to conclude that at present, management of the park is not the most suitable, given that the changes in land use observed represent a decrease in mangrove swamps, despite the fact that these forests constitute the most important ecological area of all those that make up the park. Mangals are being replaced by other land uses.

**Subject Areas**

Mangals, Sustainability, Vegetation Indices, Land Use, Environmental Management

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Communities that rely on sustainable use of natural resources find themselves particularly vulnerable to biodiversity and ecosystem degradation. However, the news is not all bad. Over time, protected areas have undergone important changes in ownership and management patterns; from an almost exclusive focus on government management of state-controlled lands to a far more pluralistic model (Borrini-Feyerabend et al. 2019). The 89,000-hectare Lagoas de Cufada natural park in south Guinea-Bissau was created to protect the largest freshwater reserve of the country. In a region where rainfalls have been reducing, this RAMSAR site plays a crucial role for water supply and for the survival of human communities and hundreds of plant and animal species. Figure 3: Land use and land cover of the study area in different time period of 1975, 1990, 2002, and 2014. In 1990, 2002 and 2014, the area of mangrove gradually decrease is about 182345 hectar (40%), 156711 hector (35%) and 132723 hector (31%) respectively (Figure 4). Mangrove area decreases probably due to forest clearing and continuous land reclamation.
during this period [3,20]. Change detection in vegetation indices. NDVI was used for the analysis of land use change to delineate the mangrove dynamics from 1975 to 2014. In respect to sustainable management of natural resource in coastal areas closely related to the association and density of mangrove community [28 - 30].