

Kwahu Restoration Project, Eastern Region, Ghana

NCRC and partners

March 2023

Introduction

The Nature Conservation Research Centre (NCRC) has had a long standing working relationship with The University of Oxford and key leaders in the Leverhulme Centre for Nature Recovery (LCNR) over the past 15 years. We have proposed to the LCNR a project collaboration in our Kwahu Cocoa Restoration project landscape in the Eastern Region of Ghana.

The Kwahu Restoration project is using a Nature-based Solution (NbS)-Restoration approach to transition a highly degraded cocoa landscape in the Eastern Region of Ghana back to the significant forest cover, and return this landscape to a biologically diverse, carbon rich, and economically productive agro-ecological system for the indigenous population who are renowned as successful farmers, traders, and businessmen and women, with an enduring commitment to their traditional systems.

As part of establishing an ecological baseline, the project needs to assess the historic forest cover of the larger landscape over the past 100 years using archival resources which are held at Oxford and Bristol. Once completed, this work could well warrant preparation of a peer review manuscript for publication.

Context

The Kwahu Cocoa Restoration project seeks to transition a highly degraded cocoa landscape in the Eastern Region of Ghana back to having significant forest cover, and returning it to a biologically diverse, carbon rich, and economically productive agro-ecological system for the indigenous population who are renowned as successful farmers, traders, and businessmen and women, with an enduring commitment to their traditional systems.

In order to achieve this vision, the project proponents will, during phase 1, undertake three main interventions, which will be supported by landscape governance systems and processes, economic development (jobs, new income streams, and infrastructure), and monitoring:

- Reforestation via trees-on-farm through the planting and enrichment of shaded cocoa and coffee agroforestry systems across approximately 20,000 ha of degraded lands;
- Reforestation by planting of native plantations on-forest reserve across 26,000 ha;
- Rewild an area of approximately 10,00 ha by allowing natural regeneration and enrichment planting of native forest species, followed, over time, by the re-introduction of wildlife for future ecotourism development.

The project desires to use climate finance to support a 20-year intervention across this highly degraded landscape. Currently, large portions of the landscape are classified in land use maps as

savanna or shrub land with low biomass values. We hold that savanna/shrub land is not the native vegetation of this landscape prior the process of degradation and deforestation. We further hold that the native vegetation of this landscape was a combined mosaic of moist semi-deciduous forest (MSDF), dry semi-deciduous forest (DSDF) and woodland savannah (WS). In order to build the case for what the native vegetation types used to be across this landscape the project needs to put together a technical file that compiles:

- Archival data analysis with the support of LCNR;
- Field sampling of remnant forest patches, on-reserve vegetation and sacred groves with support from FORIG.

Specific assignment

The specific assignment:

- Identify and review all available archival literature and resources relevant to the assignment;
- Identify archival photographic evidence and assess evidence of forest cover/land use;
- Identify aerial photographs from 1950s/60s archived at Oxford and analyze for forest cover/land use;
- Access earliest LandSat or other satellite images from 1970s and examine for forest cover/land use.

Deliverables

The specific deliverables:

- A detailed summary narrative of relevant literature and related references to forest cover/land use in the target area, with bibliographic citations;
- Summary of archival photographic evidence including actual images illustrating forest cover;
- Summary of archival aerial photographic analysis of forest cover/land use in the target area including geo referenced digital photographic evidence (mosaic of individual photo images);
- Summary of analysis of earliest LandSat imagery (1970s) in the target area.

Timeline

It is envisaged that this work can be completed in a period of 8-12 weeks of desk-based work in Oxford.

Project target area

The broad project area is located within nine districts that span portions of the Eastern and Ashanti regions of Ghana. Kwahu East District, Kwahu South District, Asante Akim North District, Kwahu West Municipal District, Atiwa East District, Atiwa West District and Abuakwa South Municipal District are situated on the western shore of the Afram River, which is the “Afram Arm” of the enormous Volta Lake. Kwahu Afram Plains South District and Kwahu Afram Plains North District are situated on the eastern shore of the Afram River/Arm of the Volta Lake. See figure 1 showing the overall project area depicting phases 1, 2 and 3 areas.

Phase 1 of the project area is situated on the Kwahu Plateau - a dramatic forest highland that sits approximately 600 m asl and is the source of a main watershed in Ghana. From the plateau in Kwahu East, the project area extends to the southeast (into Kwahu South), sloping down to the western shoreline of the Volta Lake. The Phase 2 of the project area is located across the water on the eastern shoreline of the Volta Lake while Phase 3 is located towards the southwest of the project area. We will need to discuss and agree the specific polygon/shape file to be used for this assignment.

The project landscape is an area of outstanding beauty. The plateau and its breathtaking escarpment stretch for more than 260 km, serving as the southwestern edge of the massive Volta River Basin. It is also situated equidistant to Ghana’s two largest cities—Accra and Kumasi. In 1885, the Swiss Basel mission described the Kwahu Plateau’s climate as “the Switzerland of West Africa; with nights as cool as May nights in Europe.”

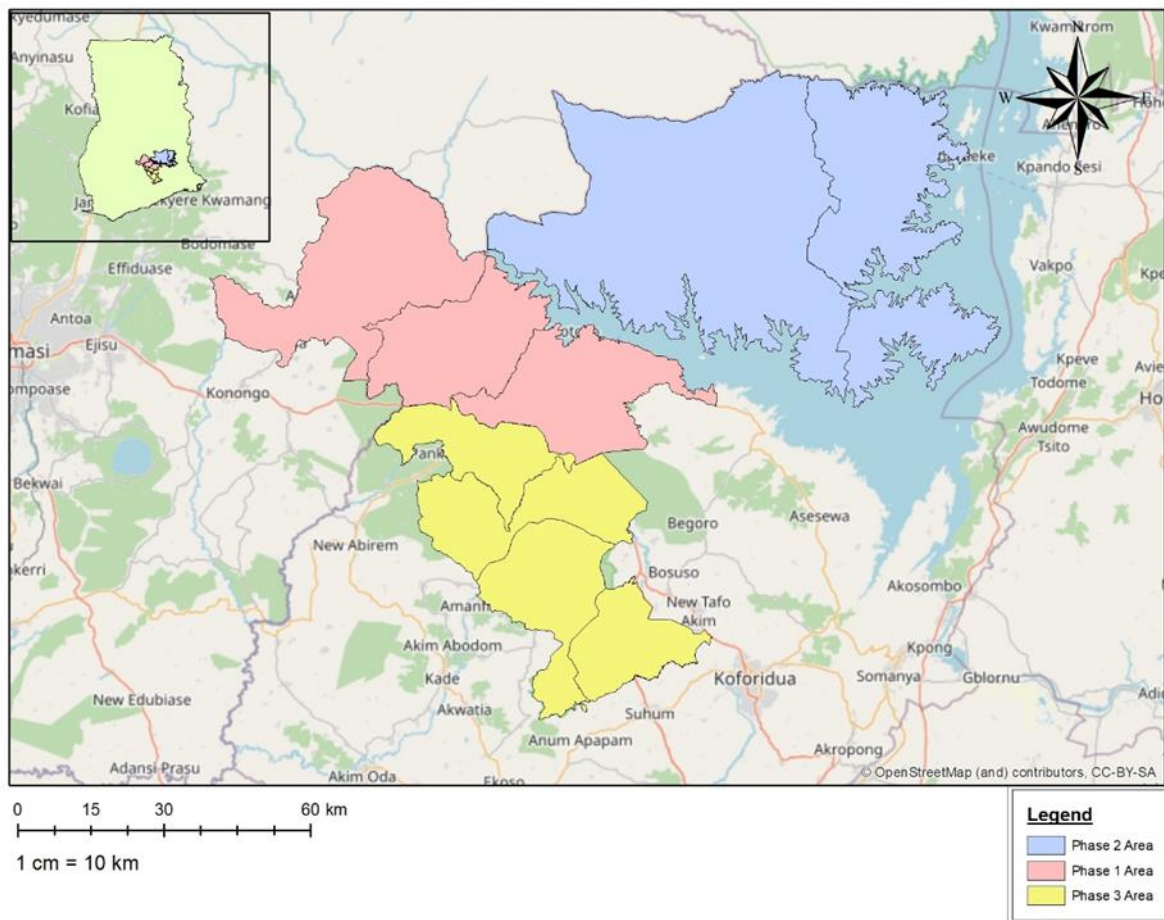


Figure 1: The overall project area depicting developmental phases

Key search terms/known sources

Some key search words to start will include:

- Royal Air Force (RAF) 1946/47 aerial survey photos (prior to flooding of Volta Lake). These photographs were located at Oxford University and the British Empire and Commonwealth Museum at Bristol. These are high resolution black and white photos with scales ranging from about 1:25,000 to 1:30,000 and can be obtained in digital format at resolutions of 500 and 600 dpi.

- 1:50,000 scale British colonial era maps derived from the 1946/47 photos updated to 1954.
- Forest cover / Land use
- Kwahu
- Eastern Region, Ghana
- Ashanti Region, Ghana
- Kwahu escarpment or Kwahu plateau
- Afram River,
- Afram Plains,
- Asante Akim,
- Volta Lake,
- Fritz Ramseyer, Basel Mission, Abetifi