Project Update May 2024

Synthesizing Knowledge to Enhance the Management of the Coastal Savanna of Ghana

Coastal Savanna Landscape of Ghana – Palm savanna of Kalakpa Game Production Reserve

Project Goal: The goal of the project was to combine analyses of historical vegetation records, traditional surveys, and local community engagement to better understand the conservation status of the coastal savanna of Ghana.

Project site: The project was implemented in the Coastal Savanna of Ghana (CSG) (see Fig.1). The CSG is the vegetation type covering part of the Greater Accra Region and the southern part of the Volta Region. The CSG is centred on approximately 6°3'31"N and 0°30'10"E and is split into two parts by the lower reaches of the volta lake; a) the western side, referred to as "Accra plains", and b) the eastern side. Six study sites were used for the vegetation survey: 1) Dechidan Stream Forest Reserve, 2) Shai Hills Resource Reserve, 3 Kalakpa Game Production Reserve, 4) Sege site, 5) Wayasi site and, 6) Ada Foah site.

Desk Study – Compilation of species list

The project compiled an extensive list of plant species that have been identified in the CSG. The total number of species recorded was 650. However, after verifying species names using https://www.worldfloraonline.org/, a total of 551 unique species from 91 plant families were identified. A list of plant families with >10 species is provided in Table 1. Herbs, climbers (including scandent shrubs), trees, grasses, shrubs, and sedges are the dominant growth form (see Table 2). Most of the species have not been assessed for the IUCN Category. However, 10 of the species are categorised as endangered (see Table 3).

Vegetation Sampling

The project team re-surveyed and enumerated 24 vegetation plots across the six study sites. Plot sizes were variable (50 x 50m, 20 x 20m, 5 x 5m, 1 x 1m) and reflected the relevé sizes used by previous researchers as well as the vegetation layer being assessed: 50m^2 and 20m^2 are for large trees whereas 5m^2 and 1m^2 subplots are for assessing smaller trees and shrubs and the herbaceous layer respectively.

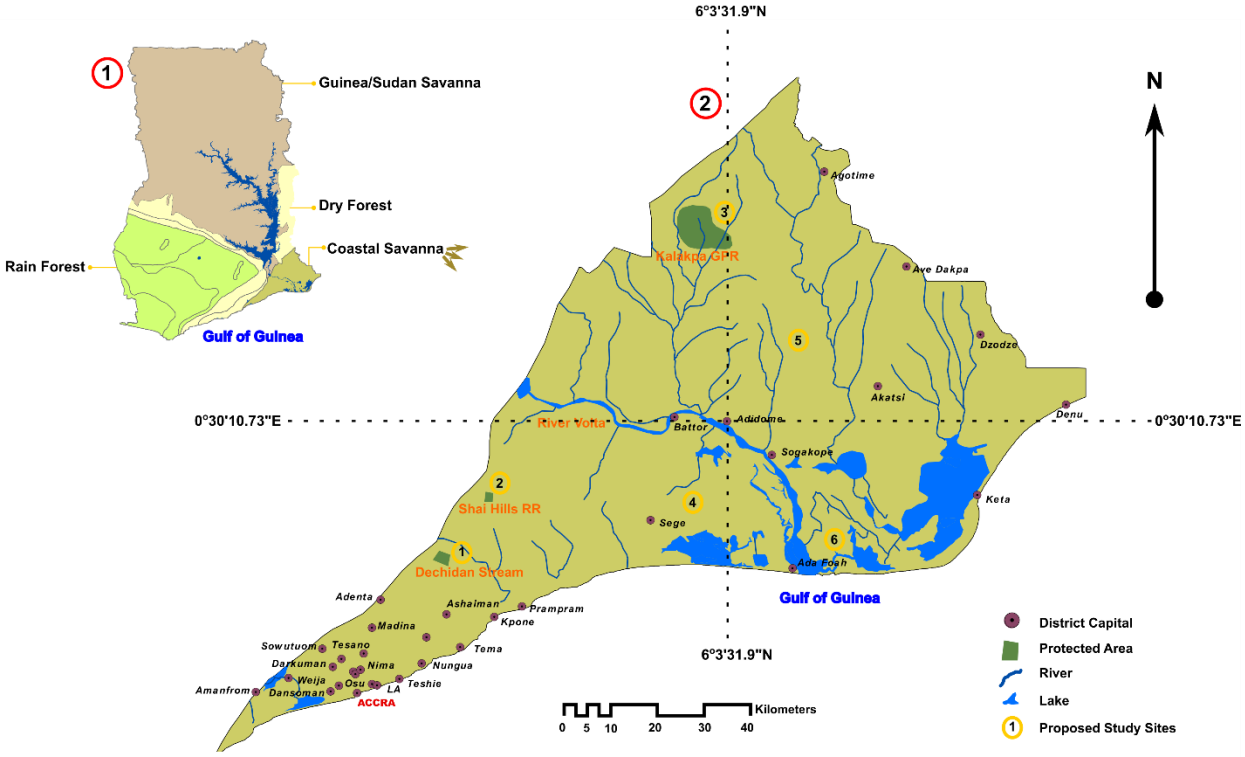

Figure 1 – Map of Project site; 1) Ghana map showing the vegetation types, 2) Map of the Coastal Savanna of Ghana showing project sites.

Community engagement

Over 20 community members participated in the field survey. Further, more than 50 individuals were interviewed to obtain information on species use, extraction pressure and drivers of landscape change. Most of the interviews were conducted either in groups or informally.

Table 1: List of plant families with >10 species in the Coastal Savanna of Ghana

No	Family	No of Species
1	Fabaceae	91
2	Poaceae	70
3	Cyperaceae	40
4	Malvaceae	27
5	Rubiaceae	27
6	Apocynaceae	24
7	Euphorbiaceae	17
8	Compositae	15
9	Amaranthaceae	11
10	Convolvulaceae	11
11	Sapindaceae	11
12	Lamiaceae	10

Table 2: Summary of plant growth form in the Coastal Savanna of Ghana

No	Family	No of Species
1	Herb	183
2	Climber	107
3	Tree	89
4	Grass	75
5	Shrub	59
6	Sedges	34
7	Parasitic	3
8	Epiphyte	1
9	Orchid	1
10	Carnivorous	1
11	Fern	1

Table 3: Summary of IUCN Conservation Status of plants of the Coastal Savanna of Ghana

No	Family	No of Species
1	Critically Endangered	1
2	Data Deficient	2
3	Near Threatened	2
4	Endangered	3
5	Vulnerable	4
6	Least Concern	187
7	Not assessed	355

Workshop

A project workshop was held at the conference room of the Faculty of Agriculture, Kwame Nkrumah University of Science and Technology (Kumasi, Ghana) on 24th January 2024. The meeting brought together 33 stakeholders from 12 institutions working in the Ghanaian savanna landscapes. Stakeholders discussed sustainable pathways for managing savanna ecosystems in the context of climate change adaptation and mitigation.

The meeting included representatives from local communities (eight), government agencies (eight), civil society organisations (nine) and research and academia (nine). The 1-day meeting started off with a presentation of the project results. This was followed by four presentations to refresh stakeholders' understanding of the state-of-the-art of savanna ecology and conservation. Subsequent activities involved break-out group discussions to collect stakeholders' perspectives and opinions on savanna ecosystem functioning, impact of climate and land-use change and knowledge gaps constraining effective savanna management.

During break-out group discussion sessions, participants identified several key processes including biophysical, cultural, demographic and policy factors that influence savanna ecosystems in Ghana. They also identified climate change (increasing temperature and erratic rainfall patterns) and land use change (ecosystem conversion, urbanisation, and agriculture) as factors affecting key ecosystem processes. These factors were identified to exert significant impact on

savanna ecosystems, habitats, soils, biodiversity, productivity, and conflicts. The discussions also focused on how the observed factors affect savanna biodiversity, carbon sequestration and rural livelihoods.

The final part of the break-out group discussion focused on critical knowledge gaps constraining effective savanna management in Ghana. Participants agreed that lack of adequate data (including species composition and distribution, plant growth and mortality, long-term monitoring, etc.) is a major constraint. Othe constraints identified were low research funding, and weak inter-sectorial coordination.

In the plenary session, emerging themes from the break-out group presentations were identified. Stakeholders then discussed which of these emerging themes should be translated into medium term priorities for savanna conservation in Ghana. Participants identified the need for a synthesis report/review, formalisation of institutional relationships, establishment of long-term savanna vegetation monitoring, and continuation of the savanna workshop as the major medium-term priorities. Generally, participants were excited about the meeting and encouraged the organisers to explore opportunities for the continuation of the stakeholder workshop.

Example of the Coastal savanna landscape of Ghana on the Akosombo – Ho Road.

Plate 1: Project team and community members undertaking vegetation sampling in Shai Hills Resource Reserve.

Plate 2: Project team and community members undertaking vegetation sampling in Kalakpa Game Production Reserve.

Plate 3: Participants of the Workshop held on 24th January 2024 at the Conference Room of the Faculty of Agriculture, University of Science and Technology, Kumasi, Ghana.