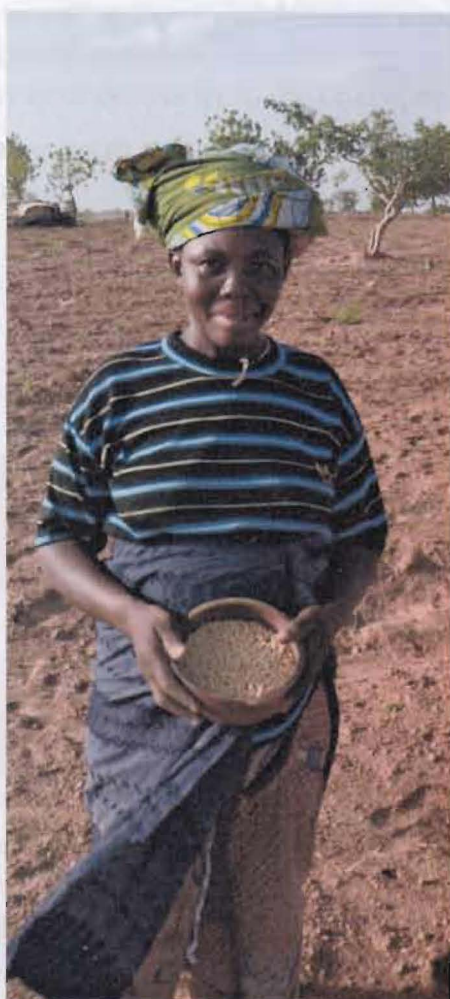

OPTIONS FOR SUSTAINABLE AGRICULTURE IN THE CHEREPONI DISTRICT

MULTIDICIPLINARY RESEARCH REPORT 2015



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1 INTRODUCTION

The economic development of Ghana is often described as beacon in Sub-Saharan Africa and as one of the fastest growing countries in the world (FAO, 2014). The agricultural sector plays a crucial role within this development, since it contributes with 22% to the GDP (GSS, 2014). Several studies highlight the special role of agriculture in developing countries in regard to poverty alleviation, food security and reducing vulnerability of the poor. FAO statistics suggest that farming, mainly on a small-scale level, is the only solution to provide a living for an estimated 70% of the rural poor (FAO, 2004). Although Ghana is one of the top five performers in the world in terms of agricultural growth, benefits are not equally spread among its actors. Income disparities have increased within the last decades and poverty of farmers in rural areas, especially in Northern-Ghana, is an ongoing problem (IFPRI, 2012).

In Chereponi, Northern Region, approximately 50% of the population lives below the poverty line, agriculture being the main economic activity among them (GSS, 2014). In order to address this problem, the Foundation Sabab Lou initiated 2011 the *Anoshe Women's Group*. This group in cooperation the foundation supports 350 women from five villages in producing soybean as their main cash crop.

In collaboration with the foundation Sabab Lou and the University of Hohenheim, every year four master students, forming an interdisciplinary research team, work toward finding solutions to achieve sustainable agricultural production for the women of the AWG. The purpose of the work conducted by third interdisciplinary research team was to continue and expand the work started by the previous groups in 2013 (Haddad et al., 2014) and 2014 (Adjogo et al. 2014). This report summarizes the main scientific findings from research done in 2015.

1.1 Study Area

This study was conducted from June until October 2015 in Chereponi district in the North-East of Ghana in the five beneficiary communities of the Anoshe Women's Group (AWG). The Republic of Ghana is located along the coast of West Africa between latitudes 4°44" and 11°11"N and longitudes 3°W and 1°E. Bordering countries are Burkina Faso to the North, Ivory Coast to the West and the Republic of Togo to the East. Ghana covers a land area of about 239,000km² and is administered by a central government, 10 regional governments and several districts.

Chereponi is one of 26 districts in the Northern Region of Ghana. Located between latitudes 10°10" and 10°20"N and longitudes 0°10" and 0°20"E, it is situated on the extreme of the North-East of Ghana directly bordering Togo. The district covers a land area of about 1080km².

Chereponi falls within the guinea savannah ecological zone (Issaka et al., 2004). The climate according to the Köppen-Geiger system is classified "Aw" which is typical of savannah zones and is characterized by distinct wet and dry seasons (Peelet al., 2007). Average annual rainfall is about 1100mm. Average annual temperature is around 28°C. Vegetation is typically Guinea savannah and consists of grassland and several drought

resistant tree species (Government of Ghana, 2010). One rainy season from June to November classifies the single growing season in the area.

Chereponi district has a population of 53,394 of this about 49.1% are male and 50.9% are female. 87.4 % of the population is engaged in the agricultural sector (GSS, 2013). The area is typically rural with settlements scattered into the interior (GSS, 2013).

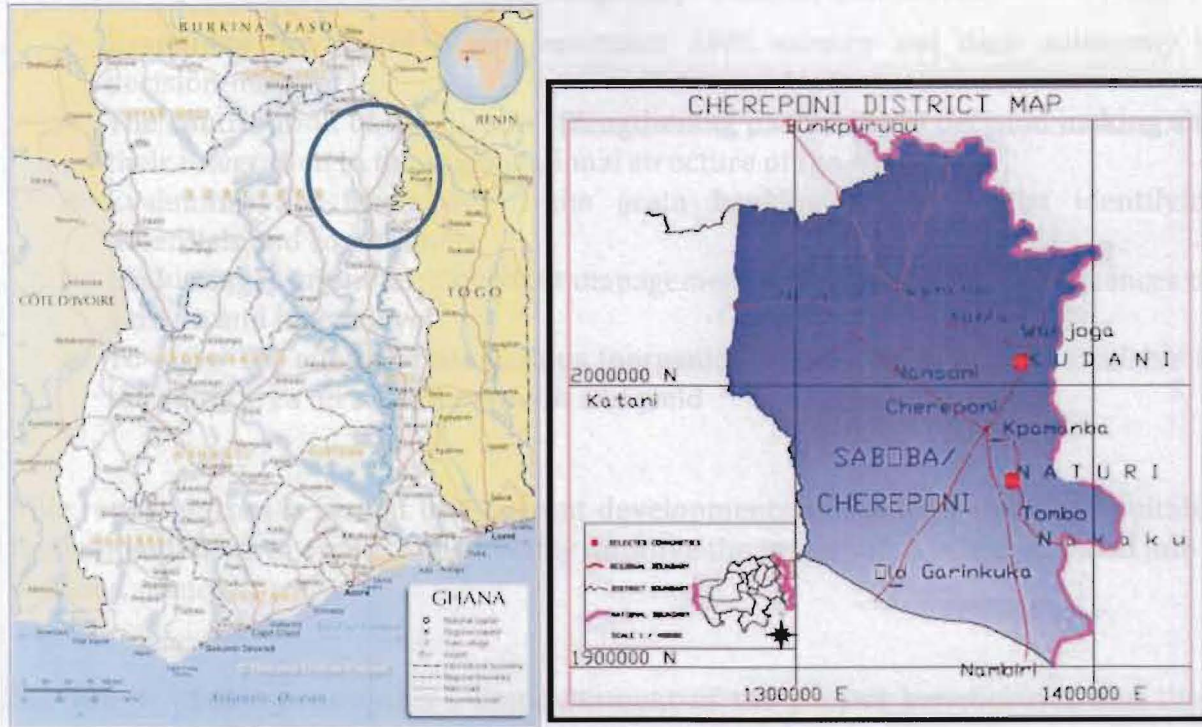


Figure 1: Map of Ghana and Saboba/Chereponi district

(Sources: nationsonline.com) (left), Haddad et al., (2014) (right))

1.2 Problem Statement

The third interdisciplinary research group benefited from the results of the previous two groups. General information related to cropping practices, general reviews on soil fertility and associated management as well as sociological challenges and a value chain analysis was already given. Crop management options were investigated and a profound understanding of existing livestock systems within the AWG was given.

In 2014, Sabab Lou implemented a new unit in the organizational structure of the AWG the “Rural Development Angels” (RDA). The objective of establishing the RDA was twofold: On the one hand it established a grain banking project for the AWG in order to store their soy beans and give the opportunity generate profit for the organization. On the other hand, it should launch participation of women within the project and involve them in decision-making.

Resource management and crop nutrition are critical issues resulting from previous work conducted in the area. Strategies to manage resources and adequate nutrient inputs strategies need further assessment.

1.3 Project Objectives

The aim of this report is to go into depth from previous results whilst furthermore evaluating new developments regarding the organization with the RDA and women's participation at project level as well as the grain banking project .

The main objectives for the third interdisciplinary research team were:

- Examining the status of empowerment AWG women and their autonomy in decision-making
- The contribution of the RDA in strengthening participatory decision making and their integration in the organizational structure of the AWG
- Evaluating the feasibility of the grain banking project whilst identifying potentials and constraints
- Evaluating nutrient farm nutrient management practices and its consequences on a micro and macro level
- To know the effects of the various inorganic fertilizer compositions available in the study area on soybean growth and yield

This report purposes insight into current developments and offer options and suitable recommendations in order to sustainably improve the project. It has been divided into 4 sections, namely:

Section 1 - Socio-economics - Empowerment of the project beneficiaries and their autonomy in decision-making (Nora Simons)

Section 2 - Agro-economics - Evaluation of the AWG grain banking project (Kristin Dally)

Section 3 - Resource management - Nutrient resource management evaluation among selected AWG households (Nikolaus Hruschka)

Section 4 - Crop nutrition – Influence of inorganic fertilizer application on growth and yield of soybeans in AWG participating communities (Oswald Owusu-Akuoko)