EVALUATION OF RECLAMATION STRATEGIES FOR DEGRADED LANDS OF SMALL SCALE MINING AREAS IN TALENSI-NABDAM DISTRICT OF THE UPPER EAST REGION, GHANA

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ABSTRACT

Agriculture contributes immensely to the development of Ghana. It is a major source of employment to the rural population. The northern regions of Ghana have been the major source of grains and yam production in the country. For sustainable agricultural production, the ecosystem including the soil and water resources should be carefully managed.

The study investigated the challenge posed to farmers by gold mining activities in the Talensi-Nabdam District of the Upper East Region of Ghana and possible reclamation strategies that can help restore the fertility of the degraded lands. Focused group discussions and field experiments were carried out in the selected communities. The treatments used in the field experiments were: sole cropped groundnut (A), sole cropped soybean (B), sole cropped bambara groundnut (C), groundnut intercropped with soybean (D) and groundnut intercropped with bambara groundnut (E). The research showed that bush fallowing, tree planting, agroforestry, pits refilling, crops and crop sequencing, and high plant density are the main methods used by the inhabitants to reclaim lands that have been degraded because of gold mining activities. It was realized that the methods were chosen by farmers based on a number of reasons and that no one method was appropriate for all situations, hence the need for integrated reclamation procedures.

Although gold mining has impacted negatively on the communities, it has nevertheless helped some of the inhabitants. The study revealed that since the commencement of the illegal mining, there has been an improvement in the standard of living and infrastructural development in the community. Some inhabitants are now able to provide good quality education for their children, sleep in safe houses and have well-balanced meals.

Generally, the experimental treatments performed poorly on the degraded lands when compared with control plots (i.e. undisturbed fields) in two seasons. However during the second year, the performance

of the various treatments on the degraded land was better than that in the first year. Groundnut + soybean was considered the best treatment as it resulted in the best improvement in soil organic carbon and total soil nitrogen as well as gave the best land equivalent ratio (LER).

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