GROUND | WORK

NIMPALA

Agricultural Information Report

INTRODUCTION

Agricultural sector remains a driver of the economy in Nimpala and continues to be the primary source of livelihoods for the majority of the population. Agricultural production therefore continues to play a critical role in the development and survival of large portions of the nation's population. Yet, the traditional cultivation practices are not producing the sufficient yields for the current demands, are resulting with significant land degradation, increasing riverbank erosion, and increasing unsustainable use of limited water resources.

The civil war stunted development of the agricultural sector and brought increased competition over the limited resources. The increased land degradation and lack of management cannot be underestimated. There is a growing dependence of the population on imported food aid, with an additional 2.65% of the population growing dependent per annum. This is combined with a roughly equivalent decline in per hectare crop yields.

There is a critical window where the various sectors and actors need to reverse the degradation and start working toward restoring critical agricultural zones and implementing sustainable management practices.

OVERVIEW OF AGRICULTURAL SECTOR

Total cultivable area estimated at 87,400 square kilometers or 37% percent of the country.
Actual area farmed 3,680,000 hectares (roughly 16% of the country)

FAO report found agriculture is the main contributor to sustained growth and primary part of GNP.

Main types of farming schemes used in Nimpala:

Mechanized rain-fed agricultural schemes: The British initiated these programs in 1920 to help support the food needs of the army. This was encouraged by Nimpala's government post-independence to encourage the private sector. This technique has resulted with extensive over exploitation of the land, exhausting the soil and nutrients. Land used for this was often appropriated without compensation, displacing traditional rain fed agriculture, pastoralism, or wild habitats. These practices also rarely use fertilizer and are devoid of organized crop rotation or fallow systems. This has resulted with a significant decline in their yields.

Traditional rain-fed agriculture: This techniques are well rooted in Nimpala's history and traditional practices. They have been relied on for stable and self-sustaining. Yet recent demographic, political and technical challenges are shifting these practices and breaking down traditional ingrained patterns. The primary concern with this practice is that population pressures are causing unsustainable rates of cultivation in an effort to generate

immediate food security. This also contributes directly to deforestation as farmers continue unsustainable land clearing. Wetter areas of Nimpala are witnessing continued deforestation.

Mechanized irrigation schemes: Major irrigation schemes have been built around the Western river flood basin around Aybodi, covering more than 60% of Nimpala's total irrigated area. The majority of river schemes are run by the government, with one large private one by the sugar companies. Several smaller irrigation schemes in the south were cut off during the conflict but under discussion for resuming operations. There are several environmental concerns from this form of production. The use of pesticides, water pollution from sugar factories, canal siltation, soil salinization, and yield reduction.

Traditional irrigation systems: This is primarily found in the flood plains around the Western river. Crops are irrigated through annual floods, traditional irrigation systems of hand-operated water levers, and the animal-driven water wheel. These are being quickly replaced by small-scale irrigation pumps. These techniques do not have significant environmental impacts. These techniques are being threatened by desertification and the change in river flow from upstream dams.

Livestock husbandry/pastoralism: The rangeland required continues to be degraded due to overuse and related degradation of resources. There is a large increase in livestock numbers during the civil war, concentrated in the central zones. Many of these zones are in the central plains and valleys of the country. These overlap with many agricultural areas and have been the cause of local fighting.

62% of the active workforce is employed in agricultural related activities.
78% of the population depends on farming for their livelihoods
60% of the population depends on traditional rain-fed farming, 22% on irrigated agriculture and only 3% on mechanized agriculture.

Main crops: Sorghum, millet, and maize. Other domestic market crops include sugarcane, dates, wheat, sunflower, and forage.

Main exports: Cotton, gum Arabic, sesame, groundnuts, fruits, and vegetables.

Commercial agricultural activities are primarily located in the Western regions of the country where the climate is more moist and suitable for extensive cultivation.

Small-scale subsistence agriculture is found throughout the country and is prominent in the Central and Northern areas.

Currently, experts estimate that 89,000 hectares or 39% of the country is being used for grazing land for livestock. Rangeland is found in almost all of Nimpala's ecological zones with a majority of them found in semi-desert and low rainfall savanna zones. The largest concerns is in the northern region where the general livelihood generation method is through semi-nomadic cattle-rearing with agriculture during the wet season only.

Using remote sensing and qualitative assessments, the team found that in the Northern region of the country, land degradation is currently at a moderate level. The clay plains, areas showed limited degradation around the watercourses, although topsoil loss was critical at local levels. In the Western zone, degradation was severe. Regional problems are evident in boundary agricultural areas.

Livestock herds, although there are no systematic and quantitative studies on inventory or carrying capacity, national experts estimated there to be over 112 million. Overgrazing concerns are a result of this overstock of livestock. With over 45% of the population estimated to be involved with livestock husbandry, the figure significantly higher in the north and western zones, large numbers of livestock are causing environmental degradation. This is combined with decreasing size of rangeland, estimated to be roughly 20 to 50 percent on a national scale in the past generation.

POTENTIAL

Since a large portion of the country's irrigable land area is not utilized, Nimpala has a vast potential for further expansion if done with sustainable water use practices. In the past 20 years, large-scale irrigation schemes have been Nimpala's leading economic investment. Despite several million hectares of area having been prepared for irrigation, there was only half actually cultivated. This was a result of poor maintenance, poor drainage infrastructure, and canal sedimentation.

Irrigable land use has increased rapidly since the civil war.

Ministry of Forestry and Agriculture has significant power and have strong pressure to quickly address the food insecurity concerns. They have thus started pursing large agricultural development projects, often without careful analysis of environmental impacts and social dynamics. The government planned to set aside large areas of land to be leased to farmers with equivalent adjacent plots left to fallow. After four years they could be exchanged for the empty plots in order to allow for the soil to recover.

CONCERNS

- The Eastern and Central zones of Nimpala have limited or no available land left for expansion of irrigation schemes.
- Population pressure from growth and conflict and displacement linkages
- Climate change and shifting rainfall patterns
- Desertification and land degradation