



3rd International Conference “Information Technology and Nanotechnology”, ITNT-2017, 25-27  
April 2017, Samara, Russia

## A review of food security and flood risk dynamics in central dry zone area of Myanmar

Mukesh S. Boori<sup>a,b,d,\*</sup>, Komal Choudhary<sup>a</sup>, Mariele Evers<sup>d</sup>, Rustam Paringer<sup>a,c</sup>

<sup>a</sup>Samara National Research University, 34, Moskovskoye Shosse, Samara, 443086, Russia

<sup>b</sup>American Sentinel University, 2260 South Xanadu Way, Suite 310, Aurora, Colorado 80014, USA

<sup>c</sup>Image Processing Systems Institute – Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of Russian Academy of Sciences, 151 Molodogvardeyskaya st., Samara, 443001, Russia

<sup>d</sup>Bonn University, Meckenheimer Allee 166, D-53115 Bonn, Germany

---

### Abstract

The Central Dry Zone area of Myanmar is the most water stressed and one of the most food insecure regions in the country. Agriculture is the most important economic sector in Myanmar as it is essential for national food security and a major source of livelihood. The adverse effects of climate change are believed to be a major constraint to food insecurity and flood risk. This paper gives a structured overview of the current scientific knowledge available and reveals the relevance of this information with regard to food security and flood risk dynamics in central dry zone area of Myanmar.

© 2017 The Authors. Published by Elsevier Ltd.

Peer-review under responsibility of the scientific committee of the 3rd International Conference “Information Technology and Nanotechnology”.

*Keywords:* Food security; flood risk; remote sensing; dry zone, Myanmar

---

### 1. Introduction

In Myanmar, 44 percent of households had problems meeting food needs [1] despite being part of a major agricultural region [2]. According to [2], 58% of those living in the region are farmers and 25% are farm labourers. Similarly, other studies [3] also indicate that farming and casual labour in the agriculture sector are the two key livelihood activities in the Dry Zone [4]. The vulnerabilities of many farming communities are increasingly complex

---

\* Corresponding author. Tel.: +7-987-432-9875.

E-mail address: [msboori@gmail.com](mailto:msboori@gmail.com)

as Myanmar undergoes unprecedented political, social, and environmental changes, making the design of impactful development interventions challenging. Food insecurity and flood risk are very common in the Dry Zone (Fig. 1). A survey conducted by [5] found that 18% of households had inadequate food for consumption and more than a quarter of children under the age of five were underweight. Households with poor access to land and markets and those relying on casual labor are the most likely to have insufficient food. Farming households are more likely to be food-secure, but food security is precarious even for these families. In 2010, the food security of 41% of farming households was adversely affected by dry spells [6].

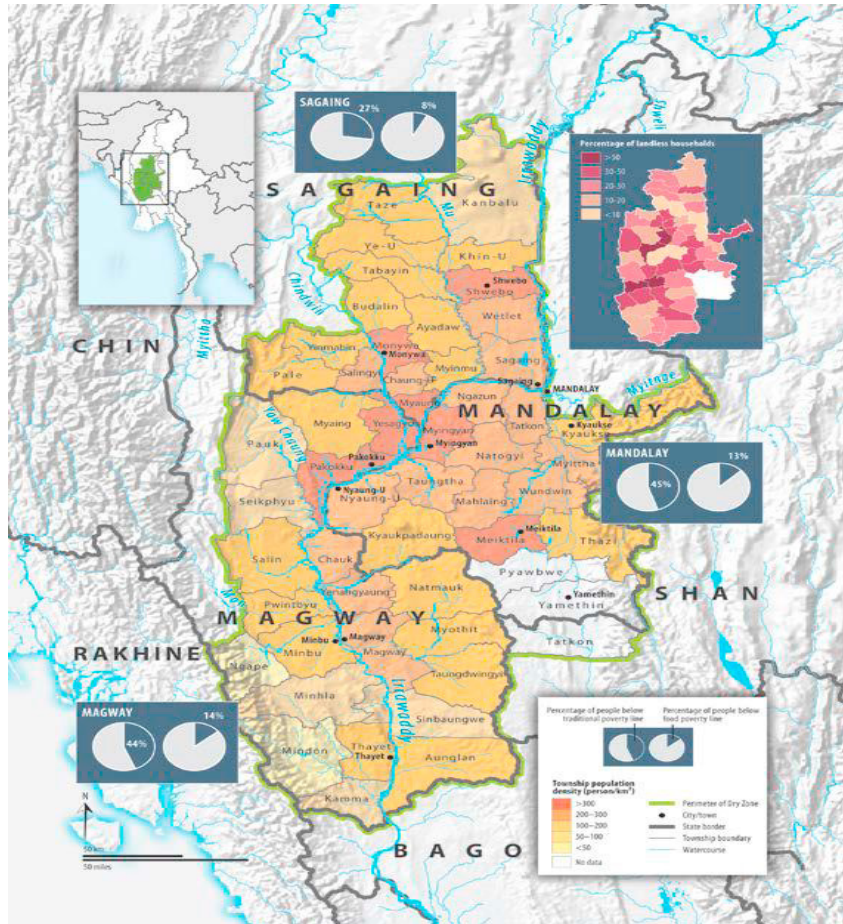


Fig. 1. The demographics of Myanmar's Dry Zone, showing the population density of townships and distribution of landless households. (Source: Boundary/townships as defined by the Myanmar Information Management Unit [MIMU] [Map Id.: MIMU983V01], March 2013 [www.themimu.info/]; Statistics on population density, poverty and landless households from JICA 2010).

## 2. Climate features

Mean annual rainfall in the Dry Zone ranges from 500 to 1,000 mm. This is low compared to the 2,000-5,000 mm range received by the rest of the country (Fig. 2). Temperatures commonly reach 40 °C in the dry season. The water collected for use in villages (excluding irrigation), about 15-20% was allocated for drinking purposes, about 50% for other domestic uses and 30-40% for livestock watering. The Dry Zone is the only truly semi-arid area of Southeast Asia; annually, rates of evaporation are more than double those of rainfall. The wet season, coinciding with the southwest monsoon, lasts from May to October. The dry season is divided into winter (between November and February) and summer (from March to April).

Download English Version:

<https://daneshyari.com/en/article/5026590>

Download Persian Version:

<https://daneshyari.com/article/5026590>

[Daneshyari.com](https://daneshyari.com)