Currently, more than half of Ethiopia’s farming households cannot produce enough to satisfy their basic needs and also lack the means to purchase food at local markets if available. A poorly performing agricultural system, rapid population growth, and environmental degradation are the major reasons for the chronic food insecurity, extreme poverty and worsening living conditions in the country. A major development challenge in Ethiopia is therefore to reduce food insecurity and poverty. To combat the problem of food insecurity, the Ethiopian Government designed a food security policy and strategy which recognizes the need for a sustainable agricultural and national development aiming at a climate-resilient green economy. This strategy focuses on forestry and agroforestry development and on improving agricultural productivity and energy efficiency. However, only a few of the existing traditional agroforestry systems in Ethiopia have been studied. Little scientific information or quantification about their role or contribution towards enhancing food security is available. To fill this information gap, the present study aims to provide scientific information on the role and potential of traditional agroforestry systems with respect to household food security in southwest Ethiopia. The study will first characterize the agroforestry systems in the area and identify the most important multi-purpose trees, especially the edible species, and collect information from sample households on the derived benefits and side benefits of the system and the identified trees. Then it will quantify the level of food security and nutritional status of the households and their members using proxy and anthropometry. The identified food tree species will be sampled and the foodstuff obtained analyzed in the laboratory to determine their nutrient composition. Then the respective agroforestry system and its component tree species and each household and its food security status will be subject to multivariate analysis so as to understand the contribution of agroforestry to household food and nutritional security