

Abstract

DUNKEL T. Identification and piloting of agroforestry practices in PweHla's watershed area to support small-scale farmers and to conserve the Inle Lake ecosystem in Myanmar

Myanmar's Inle Lake is located in the heart of the Shan Plateau and described as a magical place. The lake matters profoundly to the livelihood and development of the local communities. However, the combined effects of unsustainable use of resources, increasing population, climate change and rapid tourism development have led to an environmental degradation of the lake and its watershed.

The local community-based organization "PweHla Environment Conservation And Development" (PHECAD) was entrusted in 2015 to continue the UNDP Lake Conservation and Rehabilitation Project, launched in 2012 with the overall goal to reduce environmental degradation and to uplift the livelihoods of the local communities. As tree coverage has a direct impact on the lake downstream by controlling run off, soil erosion, sedimentation and pollution, agroforestry has been considered as a key option for the conservation of the environment and for the improvement of the local's livelihood. In this frame, PHECAD started developing on-farm tree cultivation with small-scale farmers. The work is endorsed by a research study in form of a master thesis project to emphasize the aspect of environmental sustainability and to further support the local farmers in adopting agroforestry practices in the Northern watershed area of the Inle Lake.

This research investigates whether and how agroforestry practices can benefit small-scale farmers and their households as well as the environment in the Inle Lake watershed area. The project focuses on three main outcomes: (i) the participatory identification of agroforestry options that suit the socio-economic and environmental situation in the area; (ii) the piloting of agroforestry practices together with local smallholder farmers; and (iii) the identification of the best way to support them in the implementation of agroforestry practices.

The first part of the research work has been accomplished during a field visit between November 2019 and January 2020. Existing farming systems and the socio-economic situation of the small-scale farmers were analysed through individual and key informant interviews. Through focus group discussions, farmers identified agroforestry practices that are attractive to them and organized the implementation of pilot plantings. The use of a participatory approach assures that selected options fit well the needs and expectations of the local population.

The results revealed a significant potential of developing agroforestry in the research area. The local smallholder farmers showed a strong interest to start on-farm tree cultivation, and the environmental conditions in the area are well adapted. Nevertheless, farmers are lacking technical knowledge regarding the benefits of this system. By now, they mostly cultivate rice and vegetables, but also have trees on their farmland, as avocado, tea and silver oak. It turned out, that two agroforestry designs suited best the ideas of the farmers and the environmental situation in the area. Some of the respondents want to grow the species in line in the fields, by alternating rows of trees and rows of crops. Others prefer to plant the trees on the external border of their farmland with the crops growing inside the field. The participating farmers started to prepare the implementation of the agroforestry practices, after having developed them together with the research team.

A second field visit had been planned before the rainy season in June 2020, in order to support the implementation of agroforestry practices in form of in-field training and farmer field schools. Due to the Corona pandemic, travelling to Myanmar had been impossible at that period. For this reason, the implementation had been piloted from remote. Although there were significant communication problems, the implementation of the project has finally successfully started. It is nevertheless envisaged to return to the research area as soon as the sanitary situation and the travel conditions will allow it again.

Key words: agroforestry, environmental conservation, Inle Lake, livelihood, Myanmar, small-scale farmers