

YAU-JICA TCP Research Group **CR-08**

Research Title: **Socio-Cultural Activities and Land Use of Farm Households and Landscape Pattern of Heritage Site in Bagan, Myanmar**

Research Duration – April 2017 to October 2020

Phase 1. Landscape Evaluation of Bagan Cultural Heritage Site (April 2017 to March 2020)

The first phase of the research was achieved with the following objectives.

- i. To examine the current landscape structure of Monumental Zone (MZ)-1 for knowing how the configuration of the components might be.
- ii. To investigate vegetation conditions for finding out how the vegetation might interfere with the monuments.
- iii. To analyze spatiotemporal dynamics of the landscape for exploring how the landscape structure could spatially change over time.
- iv. To assess cropping practices of farmers for appraising how the farmers could have managed the agricultural land parcels.

Major Findings and Conclusion of Phase 1

Contemporary landscape (as of September 2018) of MZ-1 in Bagan Cultural Heritage Site configures 63% of unmanaged vegetation (semi-natural tree groves plus weedy patches), 15% exposed land, 13% built-up area, 8% cultivated patches, and about 1% water bodies as can be

seen in reservoirs. The unmanaged vegetation encroaches monuments that may threaten the stability of the architectural structures. The alien *Prosopis juliflora* has conspicuously been conquering the cultural landscape from the drier hinterland to the Ayeyarwady River. The conquest of the unmanaged vegetation was found interdependent on spatio-temporal changes of the landscape structure, stressing on the degradation of active agricultural land-use over three decades. In the hinterland, large occupancy of cultivated patches endowed with multi-cropping per annum reflects living landscape compared with the area close to the Ayeyarwady. Despite smaller cultivated patches, the riverside endorses more diversified cropping than the hinterland. The farming community, therefore, stands for conserving the Bagan landscape, though the size becomes smaller than the non-farm households today.

Since agricultural land is a component of cultural landscape, land use and management contribute to safeguarding the heritage coexisted with the living landscape that need to be passed down to future generation. Further investigations in the focus of landscape ecology are necessary in order to inform the local and global community for safeguarding the living environment.



Figure 1. Overview of Bagan landscape (February 2018)



Figure 2. Agricultural land-use and encroachment of unmanaged vegetation in the vicinity of monuments (September 2018)

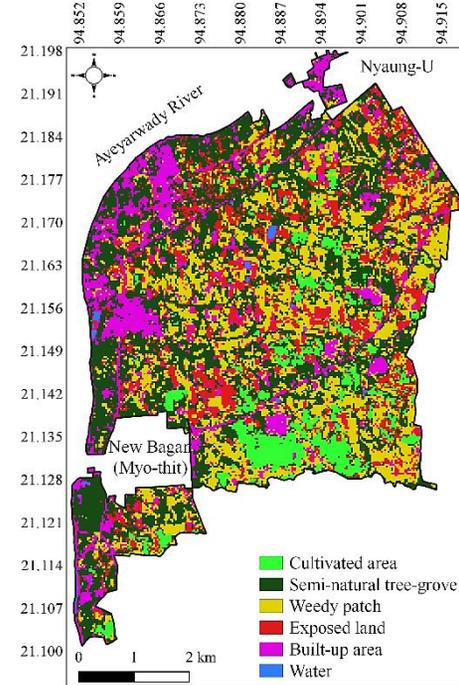


Figure 3. Landscape configuration of Monumental Zone-1 in Bagan (as of September 2018)



Figure 4. A farmer inter-cultivating sorghum field in Bagan