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## Community-based fire management lessons learned from two provinces in Cambodia's Tonle Sap Biosphere Reserve

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### Abstract

Globally wildfire occurrences are increasing due to anthropogenic changes in climate and land use in recent decades. Cambodia experiences the highest number of fires per area in Southeast Asia, coupled with an ongoing rapid deforestation rate this significantly impacts the flooded forest area of the Tonle Sap Biosphere Reserve (TSBR) and consequentially the livelihoods of the local communities. Community-based fire management (CBFiM) is an approach that substantially involves communities in developing and implementing land and forest management to prevent and control fires. The objective of the study is to understand opportunities and constraints affecting the implementation of CBFiM and the knowledge, attitude and practices present in the target area. This study is part of the Our Tonle Sap project that aims to enhance the management and restoration of critical habitats to facilitate resilience against environmental change. A participatory research approach was utilised in five community fisheries in the transition and buffer zone of the TSBR in Pursat and Siem Reap province. Data was collected through key informant interviews, focus group discussions and a household survey (n=80). The sample frame of the study included CFi members and villagers living in selected CFi. The results show that there is no correlation regarding CFi membership and knowledge, attitude and practices in connection with fire management behaviours. However, CFi members are more knowledgeable regarding CBFiM. An obstacle is the lack of knowledge on ignition sources and disconnect between human-made fires and their impact on the community. The attitude towards CBFiM approaches is favourable within the communities. Practicing fire-related activities is not significantly linked to being more knowledgeable on fire making and extinguishing behaviours. A lack of incentives and adequate enforcement of the law are limiting factors on the efforts to reduce fire incidents. This study shows the potential of CBFiM in the TSBR. It concludes that, additionally to enhancing dissemination on the topics: fire prevention, CBFiM and flooded forest fires and their impacts, efforts regarding livelihood activities are needed. Enhanced cooperation between stakeholders will ensure sustainability. Utilized as a reference value this study can generate meaningful insight into the sustainability of CBFiM approaches.

**Keywords:** Cambodia, community-based fire management, flooded forest, natural resource management, Tonle Sap Biosphere Reserve