Community Forests as a Traditional Nature Based Solution to Climate Change in Myanmar

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Abstract—Nature Based Solutions (NBS) are increasingly recognized by politicians, businesspeople, academics and donors as effective means to address climate change and biodiversity loss. Although NBS is a new terminology, it refers to ways that local people have used and managed natural resources for many years. In Myanmar, the traditional practice of shifting cultivation known as *Taung Ya,* under which farmers were allowed to cultivate crops in forested land while caring for the teak plantations, has been well integrated with scientific forest management since the colonial days. The development of modern community forests dates back to the 1970s. These forests contribute to the supply of timber while also helping with mitigation and adaptation of climate change. Community forests are proven to sequester carbon, especially in mangrove areas. The market for carbon credits is being developed through improved policies and regulatory framework development. The experience in Myanmar has lessons for developing community forests as tangible and intangible cultural heritage which contributes to the mitigation of climate change.

Community forestry, cultural heritage and climate change

The policies and practices of community forestry have been well integrated into the global development agenda for decades. Community forests have been adopted as a local solution to global development issues such as poverty reduction, food security, rural development, gender equity, biodiversity loss and climate change. The original concept of community forestry is rooted in the traditional cultural system of the Karen people in Myanmar. For many centuries, the Karen have practiced a form of shifting cultivation known as *Taung Ya*. During the colonial period, *Taung Ya* was well recognized and scientifically adapted as a collaborative approach to forest management. Local farmers were given the opportunity to grow crops under forest trees (mainly teak) while also helping to nurture the teak plantations.

The world in which we live is facing many challenges. Economists, scientists and development practitioners invent tools and approaches to address these challenges. The biggest challenge today is climate change and its impact on our daily lives. The global effort to address this challenge has progressed with various results. There is an

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ambitious target to keep the global temperature rise within 1.5°C, primarily by reducing greenhouse gas emissions. Many sectors—public, private, community, individual—have stakes in achieving that goal. Many methods have been proposed for reducing emissions, particularly carbon emission reduction. Using natural systems to reduce carbon emissions is a cost-effective way to tackle climate change. These methods are called Nature Based Solutions (NBS), addressing a broad range of challenges, and Natural Climate Solutions (NCS), specifically targeted to address climate change. Community forestry has been widely adopted within these approaches..

Community forests have appeared in the rural landscape of many developing countries including those in ASEAN. Community forests in ASEAN play significant roles in rural development, food security, poverty reduction and local subsistence. Mangrove forests well managed by local communities have saved thousands of lives by serving as an effective natural barrier against storms, floods, and other extreme weather. During wars or famines, community forests have provided survival nutrition and shelter for displaced people. When Myanmar was hit by Cyclone Nargis in 2008, over a hundred thousand people died, but survival rates were higher in areas with good mangrove forests managed by the community, and recovery was faster in areas where community forests were well developed. When a community forest is formed, the people in the locality become more systematically organized as a user group. The aid agencies find it easier to communicate with this kind of user group when they deliver emergency relief assistance.

The protective value of mangrove forest is well understood among the survivors. The people in the Ayeyarwaddy delta, Rakhine coastal region and Taninthayi coastal region of Myanmar have depended on natural mangrove ecosystems for their livelihood for many generations. They are willing to protect the mangrove forests through a community forest or other organization because they have witnessed the value of mangroves and the effectiveness of user groups in climate change mitigation and adaptation. Recent research found that mangrove trees can absorb more carbon than terrestrial trees. Protecting mangrove forests through proper participatory management under a community forest can produce sustainable carbon credits and attracts responsible investment for the carbon market.

Community forest development in Myanmar

The *Taung Ya* system of the Karen is a three to five-year rotation. The Forest Department in the colonial era formed an agreement with the Karen people to partner in land management by allowing them to cultivate crops under the department's teak plantations while also helping to nurture the teak trees. *Taung Ya* became part of colonial forest management in Myanmar. The key concept of partnership from this era is well integrated into modern development of community forests, guided by the fundamental values of partnership, respect, and fairness, without paying undue attention to the ownership of the land. In the early stages of developing modern community forests, the focus was on tenure, on the bundle of rights. There are still issues over the bundle of rights enjoyed by the local communities. Most of the land in Myanmar, as in other

countries in ASEAN, is public land. All forest land in Myanmar belongs to the state and is managed by the Forest Department under various classifications as forest reserves, protected areas, unclassified, and so on. In the colonial period and early independence period, forest management in Myanmar was systematic and scientific. The management of community forests became more systematic after the Myanmar Forest Act of 1992 and the issue of regulations in 1995. The Act was updated in 2018 and the regulations in 2019, providing more opportunities for the development of community forests. In 2015 the Community Forestry National Working Group was formed as a platform to discuss various issues, opportunities, and solutions for community forest development.

By 2022, there were 7,223 user groups with 185,235 in community forest of over 400,000 hectares. The target is to have 919,000 hectares by 2030 as part of Myanmar's Nationally Determined Contribution under the Paris Agreement of 2015. Most of the development of community forests has been donor driven. The current extent of community forests is only 41 percent of the target due to reluctance on the part of the authorities, low capacity of the communities, and lack of incentives and linkages for sustainability (RECOFTC 2022).

The political commitment to promote community forestry seems encouraging but the implementation is slow. The district forest officers have to be convinced to cooperate. The local user groups have to show the commitment to follow the rules, responsibilities, and benefit sharing. The productivity of the land is another obstacle as most community forests are on poor land. The early community forests were established to provide fuelwood supplies to the user groups and villagers, or to protect watersheds, habitats and biodiversity. Some were established to provide commercial timber. In such cases, the quality of the land and the accessibility of markets are important factors. There have been successful instances that need to be scaled up through stronger policies, responsible markets, and sustainable financing. Community forests run by women in Kachin State have been well recognized for their commitment to maintain their community forests against competition from other land uses such as mining, agricultural land conversion and development projects. A Kachin group in Wai Maw township of Myitkyina district, Kachin state has successfully cultivated timber using local thinning practice. A community forest in eastern Inle lake in Shan State has been successful in conserving a watershed area. Community forests in the central dry zone have restored the degraded landscape with native species. There are several community forests that provide fuelwood to local communities throughout the country.

Some community forests in mangrove areas are set up to protect against strong winds, storms and tsunamis as well as providing livelihood options for the local people. The role of mangrove forests in mitigating and adapting to climate change issues has been well recognized. More importantly, people rely on the mangroves for their survival, livelihood, and prosperity. As a result, many community forest have been established in the coastal area of Ayeyarwaddy division, Rakhine State, Taninthayi state, Yangon division and Bago division and Mon state with the support of international donors and recently also private investors. There is a need to reduce the reliance on donors by promoting more community-initiated projects, particularly in areas that are vulnerable to natural disasters associated with climate change. The obstacles lie not with the local

people, who have suffered from the consequences of degrading mangrove forests, but with the limited availability of land and the competition from agriculture, fishery, and tourism.

Figure 1. Learning existing local knowledge and culture to address climate related issues in one of ten villages supported by JICA in eastern Inle Lake, Shan State, Myanmar (photo by Tint Lwin Thaung, October 2022)

Community forestry and cultural heritage

Community forests in Myanmar are deeply rooted in the traditional farming practice of ethnic groups. Traditional practices are intangible cultural heritage. The Karen and other ethnic groups normally cultivate crops after preparing the land under the *Taung Ya* system. Communities collaborate in preparing the land and cultivating the crops, and they celebrate harvest festivals together after the end of the cultivating season. Mutual support and mutual benefits are the cultural norms of Karen and other ethnic people in Myanmar. However, this culturally based land management is not totally free from criticism.

Earlier, the practice of *Taung Ya* was not much criticized as there was land available and little population pressure. With long periods of rotation, the forest vegetation could recover without damage. As the available land became limited, the rotation period got shorter and the result was more damage to the forest ecosystem. *Taung Ya* or shifting cultivation was frequently criticized as a major cause of deforestation in many developing countries including Myanmar.

New concepts of community forest development attempt to overcome these problems

with the *Taung Ya* system. Rights and responsibilities are clearly defined. The partnership between the local people and the Forest Department to manage teak plantations becomes a more complex affair, addressing issues of land tenure, management, and access to

Figure 2. Gender equity in culturally sensitive communities is an essential part of solutions to address climate change. Ethnic Pa O women and men participated in the CF certificate award ceremony, eastern Shan State, Myanmar (photo by Tint Lwin Thaung, 2017)

markets and finance. Boundaries are demarcated. User groups are formed. A business plan is developed to manage the demarcated and permitted land. These improved land management practices are well adapted into the existing cultural landscape of the local communities.

There are other forms of community-based natural resources management community fishery management, community-based reforestation, community-based management of protected areas, community-based ecotourism, community-based organic farming, and other nature-based solutions to climate change. These are well-established in the cultural practices of the local people. The new terminology of Nature Based Solutions serves to attract political will, business interest and public support for climate change mitigation and adaptation policies, programs, and facilities. With broader support of people from all walks of life, community forestry and other community-based projects can contribute to climate change mitigation and adaptation as well as future emerging global issues. Community forestry is the nature-based cultural heritage of the society.

Such cultural heritage can serve as a means to harmonize economic development, culture and nature conservation, but this requires certain conditions. The existing cultural norms and practices of society need to be well recognized. The available or potential

nature-based solutions need to be observed. There has to be a participatory process to determine the best options, manage potential risks and ensure a fair sharing of the benefits. The guidelines of Free, Prior and Informed Consent should be a prerequisite of the participatory exercise.

Figure 3. Promoting principles of Free, Prior and Informed Consent through participatory community consultation to establish private-community partnership plantation in Myin Ma Hti village, Aung Ban township, Shan State, Myanmar (photo by Tint Lwin Thaung, October 2022)

The cultural norms may be based on faith or custom. In the past there was harmony between cultural heritage and nature-based livelihoods, but this harmony has been disrupted by population pressure, market demand and the declining carrying capacity of the natural systems. Local people have suffered as a result. The principles and guidelines of Free, Prior and Informed Consent are designed to ensure that the most disadvantaged people in society are not excluded. Applying Nature Based Solutions to climate change in harmony with intangible cultural heritage cannot be successful without these principles.

Community forest and cultural heritage to tackle climate action

Recently, many donors have become interested in expanding community forestry to address global issues such as climate change and biodiversity conservation.

For example, the Japan International Cooperation Agency (JICA) supported the Myanmar branch of the Center for People and Forests (RECOFTC) to enhance the

capacity of ten community forest villages in the eastern watershed area of Inle Lake to address issues of climate change and disaster risk reduction. The project was simply designed to improve the resilience of the communities through diversifying their production of food and raising their awareness of global issues.

Figure 4. Successful mangrove plantation established by World View International Foundation in partnership with local communities and the Forest Department to claim carbon credits, Shwe Thaung Yan, Irrawaddy Delta, Myanmar (photo by Tint Lwin Thaung, 2022)

A study on the contribution of dry-zone community forests to the adaptation to climate change indicated that community forests had not yet enhanced the physical, financial, and natural capital of these communities to adapt to natural disasters associated with climate change.

The role of community forests in the Cyclone Nargis disasters of 2008 is still under-appreciated. Villagers from Amar and Byone Hmwe island, Bogalay township, reported that fewer lives were lost in villages with good mangrove forests under community forest management or protected areas.

Mangroves have been scientifically proved to sequester more carbon than terrestrial vegetation. The World View International Foundation has established or restored over 20,000 hectares of mangroves in Ayeyarwaddy delta, Sittaung delta, Rakhine coast and Taninthayi coast in collaboration with the Forest Department and local communities over the last decade. Half of the estimated carbon sequestration resulting from these projects has been delivered to the local communities as carbon credits. Eventually, these reforestation sites will be transferred to local people as community forests. This

kind of investment is rather new to Myanmar and participatory monitoring is essential to ensure that all stakeholders are well informed, that the benefit sharing mechanism is transparent, that there is a mechanism for resolving conflict, and that local cultural norms are well respected.

The dry zone of Myanmar is an unique ecosystem with a severe temperature ranging from 10°C to 45°C and rainfall below 500 mm per year, but still home to over 15 million people. Their livelihoods and cultural practices have evolved with nature. They are known for their honesty, bravery, and resilience. Due to extreme weather and other factors, they are accustomed to climate shocks and have developed the cultural wisdom to survive in extremely difficult situations. Governments and development organizations have helped to improve livelihoods. Community forests have been developed not only to supply fuelwood but also to serve as shelter against extreme heat.

Figure 5. Resilient people from the dry zone of Myanmar photographed with the Director General of the Forest Department after clarrifying land issues and receiving efficient cooking stoves, Myaing township, Pakoku, Myanmar (photo by Dr Maung Maung Than, 2016)

Conclusion

Local communities in Myanmar have evolved cultural values to live in harmony with nature, particularly within the harsh climate of the dry zone, the disaster-prone area of the Ayeyarwaddy delta, and the long coastlines.

The key values applied to the usage of natural resources of land and water are sharing, partnership, respect, and fairness. These values are fundamental to many community-based natural solutions such as community forests, community fishery management, community protected areas, and community ecotourism.

Modern community forest management has evolved based on historical practices

through the application of rule-based systems based on participation and consent. Community forests can contribute to climate change mitigation and to climate change adaptation.

The practice of community forest management in turn strengthens the existing and evolving cultural heritage of the rural societies in Myanmar.

References

RECOFTC (The Center for People and Forests). 2022. *Community Forest Assessment in Myanmar: A draft report.*