Rapid assessment tools

Fire management professionals require reliable and accurate field-level information in order to plan and to be effective in their work. In addition to the information that they have from their technical backgrounds, training, and professional experiences, it is essential that they receive information about: the areas where they are working, the local conditions, the culture, and the social and economic circumstances of the people who are affected by their actions (FAO, 1996). For CBFiM to succeed, gaining a solid understanding of the community context is critical.

There are a number of approaches that have been developed to enable the collection of information at the field level. Some examples of field-collection methods are described below, though it should be noted that the existing studies of CBFiM have not applied a common method and that there is no single accepted method.

PARTICIPATORY RAPID APPRAISAL

A well-known and widely used approach is Participatory Rapid Appraisal (PRA). PRA is a family of methods that enable individuals to share and assess their local knowledge, thereby allowing them to plan and to act (Chambers, 1994), with outsiders facilitating rather than controlling the process (World Bank, 1994). Tools developed and used in this process facilitate the collection and analysis of information by and for community members, with an emphasis on local knowledge. PRA methods provide information to both outsiders who wish to understand how the community uses and manages its resources and to the communities themselves, enabling them to evaluate resource management practices. Both are valuable inputs to resource management and to CBFiM in particular. The information collection process, if applied correctly, also provides a forum for informal and unbiased dialogues with the community members and with a variety of stakeholders, including representatives from local government divisions. This information-gathering through dialogue allows for an in-depth examination of existing practices, problems, conflicts, and opportunities regarding the use of resources, thus providing a basis for developing more sustainable and productive management systems (Asia Forest Network, 2002).

RANKING, SCORING AND MATRICES

Matrices are used to assess the relative prioritization of the elements of a single issue, in this case fire use, by individual groups (Table 1). This technique can be used to identify constraints or opportunities as well as to explore preferences and to attempt to develop an understanding of the basis on which choices and decisions are made (Jones, 1995).

TABLE 1
A ranking and scoring matrix used in Participatory Rapid Appraisal

Fire use	Month used	Value (importance)	Comments
Rice paddy preparation	January	1	Fire is now very intense and burns very hot.
Land clearing	October	5	Fire has become difficult to control and to keep in designated areas.
Mushroom collection	March	3	Fire used in the forest is a tool to grow mushrooms.
Honey collection	September	6	We are often not allowed to use smoke to collect honey because of the danger from fire.
Traditional medicines	November	4	Most medicinal plants do not like fire.
Hunting	July	2	Fire is used to hunt for animals; however, a lot of animals disappeared when the forest was cut down.

Source: Johnson (2006)

ANALYSIS TABLES

Tables have been designed, theoretically and subject to preliminary trial, to gather information about fire that is related to the community quickly and effectively. The CBFiM Analytical Table (Table 2) is designed to capture information related to a particular group's or community's use of fire. The Fire Impacts Table (Table 3) is a more detailed perspective on the impact of fire and provides the opportunity to sort and describe those impacts. As part of an FAO North Asian regional training workshop on CBFiM in 2009, during a one-day field trip to a rural village in Yunnan province, participants conducted two-hour, semi-structured interviews with several different groups, including a women's group, an elders' group, a community leaders' group, a men's group and a group consisting of park staff. The tables, and the information they contain, are provided as examples.

TABLE 2
CBFiM analytical table (Data collected from Mangun village, Xishuangbanna prefecture)

Types of fire being assessed within a community perspective 1 Prescribed fire (agricultural) 2 Wildfire						
Point of origin		Impact (+/−)		Ability to change	Intent to change	Shared objectives
Insider	Outsider	Insider	Outsider			
Rice paddy Sugar cane fields Grasslands (grazing) Forested hillsides Celebrations (festivals)	Neighbouring villages Nature reserve Nature reserve staff apply fire on reserve boundary where fuel loads are heavy and risk of fire is high.	(+) minimizes harmful forest insects (+) improves grazing for livestock wild animals (+) controls grass minimizing competition with seedlings (+) fertilizes agricultural fields (+) reduces hazardous fuels (+) increases natural tree regeneration (−) potential of escaped fires into nature reserve (+) stop large fires (+) improved wildlife habitat (−) soil erosion (−) water quality (−) wildlife loss (−) tree mortality		Where and when to burn Policy No ability for community to change reserve burning practices Classify the reason for a prescribed burn Prepare burn plans	Comply with policy Adapt fire management practices to minimize conflict with nature reserve Fire is the custom, is part of the local culture and is needed for agriculture Fires to be lit after 18.30 hours when fire danger is low The community does not intend to change reserve burning practices that they perceive to be positive and beneficial to the community (protect the community from large fires) May occur in November each year at the prefecture permit stage	Use of prescribed burning Develop ways to decrease accidental fire events Reduce fuel loads on the boundary between the reserve and the community Increase fertility of the soil Possible to create some shared objectives in the nature reserve buffer zone

Source: FAO (2009a)

TABLE 3
Fire Impacts Table (Data collected from Mangun village, Xishuangbanna prefecture)

Fire type 1 Prescribed fire (agricultural) 2 Wildfire				
Impacts	Inside		Outside	
	Positive	Negative	Positive	Negative
Ecological	Increased fertility of land Regeneration of pine and oaks Control pests (mice, etc.)	Destroys forest	Regeneration of pine and oaks Control pests (mice, etc.)	Destroys forest
Environmental		Smoke/haze Reduced water quality		Smoke/haze Reduced water quality
Social	Makes the community happy Social harmony		Experience in how to prevent agricultural fires burning into the natural reserve Social harmony	
Safety	Protects the community	Injuries/ accidents Property damage	Avoid fires escaping into the nature reserve forest Promote the skills of the nature reserve staff	Injuries/accidents
Health		Smoke/haze Reduced water quality		Smoke/haze
Economics (subsistence and livelihoods)	Increased agricultural products Increased household incomes Increased NTFPs (mushrooms)	Economic loss		Economic loss Costs of conducting burns (labour, fuel, etc.)
Political	Harmonious society		Harmonious society	

Source: FAO (2009a)