2. ORGANIZATION AND COMMAND

Organization

One person – the *fire boss* – takes charge of all the people working on a fire. The most dangerous and least efficient ways to fight a fire is for everyone to work by himself or in small groups. But, it is the job of everyone to watch out for himself and the rest of the team to make sure that no one gets hurt.

The job of the fire boss is to take charge of everyone, to plan strategy and tactics, to insure safety, and to tell local forestry officials how the work is progressing.

The basic unit for firefighting is a *crew* of 5 – 20 firefighters. A single crew is sufficient to put out a small fire, and the crew boss can also be the fire boss. For a large fire, firefighters are grouped into numerous crews. Each crew has a *crew boss* who reports to and receives instructions from the fire boss. The fire boss himself does not need to himself talk to every firefighter. A single person is unable to keep track of more than eight firefighters while also scouting the fire, planning strategy and reporting to authorities. At a large fire, the fire boss gives authority to crew bosses to instruct and keep track of their own crews and to make limited decisions, particularly when the safety of their crew is threatened.

The Fire Boss's Rules

A good fire boss has a;

- thorough knowledge of fire prevention and control,
- ability to make fast and reliable decisions based on this knowledge,
- carry out and supervise a variety of operational and investigative field activities,
- knowledge of the use of computers, radios, meteorological instruments and maps in firefighting,
- ability to calculate and interpret fire danger indices, and
- accurately complete fire reports.

The fire boss's rules are;

- consider the general situation and make an appreciation of action required,
- set yourself a clear objective and manage that objective, (e.g. to confine the fire to one hectare within 30 minutes),
- assign tasks and resources to meet that objective,
- ensure that every person working on the fire knows who is in charge,
- continually emphasize that safety considerations are paramount,
- maintain direct control of no more than eight people (*span of control* between

three to eight; see Appendix *Fire Management Terminology*),
- ensure effective communication arrangements are established, and
- brief people at every opportunity.

Anticipation and Maps

On arrival the fire boss scouts the fire and decides if he can control it with the resources he has with him. Even if it appears that he can, he still sends word to the local authorities so that they are prepared if conditions change and the fire worsens. If it seems that the fire is too large for the immediate crew, reinforcements are called.

Changes in fire perimeter and behaviour over time are anticipated. Thereafter the fire boss continuously assesses the future need for additional fire crews, equipment and other resources for the hours ahead. Such foresight is possible when the boss is thoroughly familiar with the topography, fuels, local weather and the capabilities of crews and equipment.

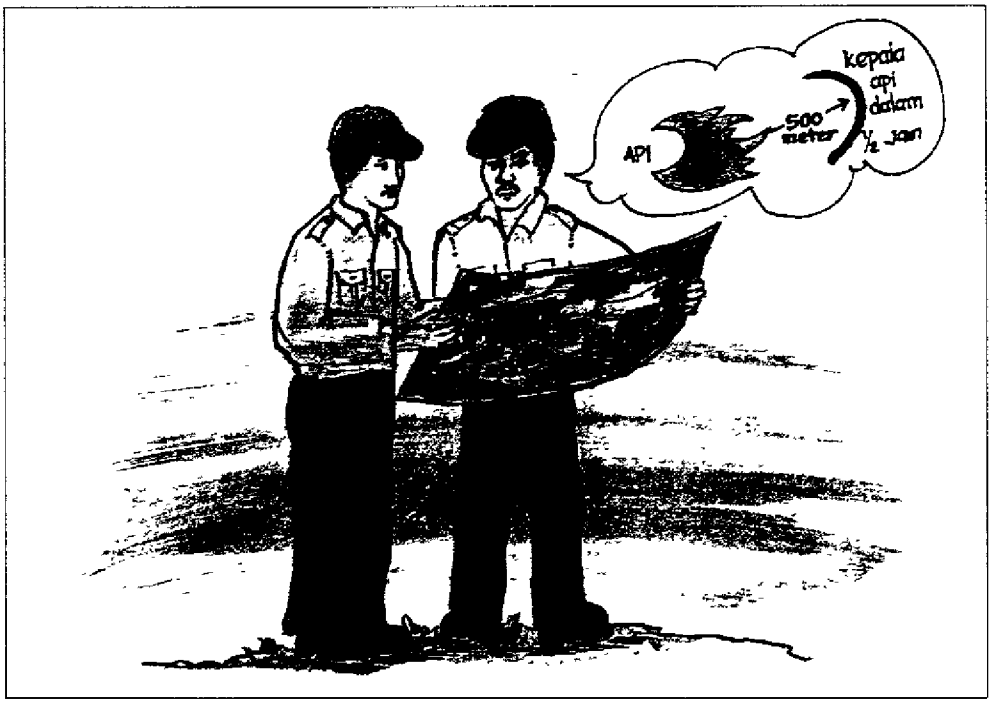

Figure 3 The use of maps is an essential part of anticipation.

Two sets of maps are needed to assist in the control of forest fires:

- Regional maps with at a scale of 1: 250 000, and
- Local maps at a scale of 1: 50 000, that cover the area around a large fire.

Regional maps are used in the command posts to locate fires and guide the units to them. Local maps with their larger scale are an essential tool for the fire boss as they contain precise information on the local wilderness, villages, access roads, water supplies, fields, types of forest and on vegetation.

Both scales of map need to be ruled with a *grid system* – used by the armed services – related to latitude and longitude lines using the Universal Transverse Mercator (UTM) grid. Whole degree and minute lines are added, seconds can be estimated by eye. [NOAA satellite data showing the location of vegetation fires is received in the less widely understood convention of decimal degrees but is converted to minutes and seconds before transmission to users. See Anderson, Imanda and Muhnandar (1999) for further details.]

A *graph system of fire behaviour anticipation* is used in many countries (Figure 4). It is a particularly useful tool in helping to imagine where and how big the fire will be in 30 minutes, one hour, two hours, etc. With its use the fire boss can then define his new;

- objective; a goal statement that indicates what he wants to achieve at the fire,
- strategies; developed from the objective and that describe how the fire will be fought, and
- tactics; the tasking of personnel to implement the strategies.

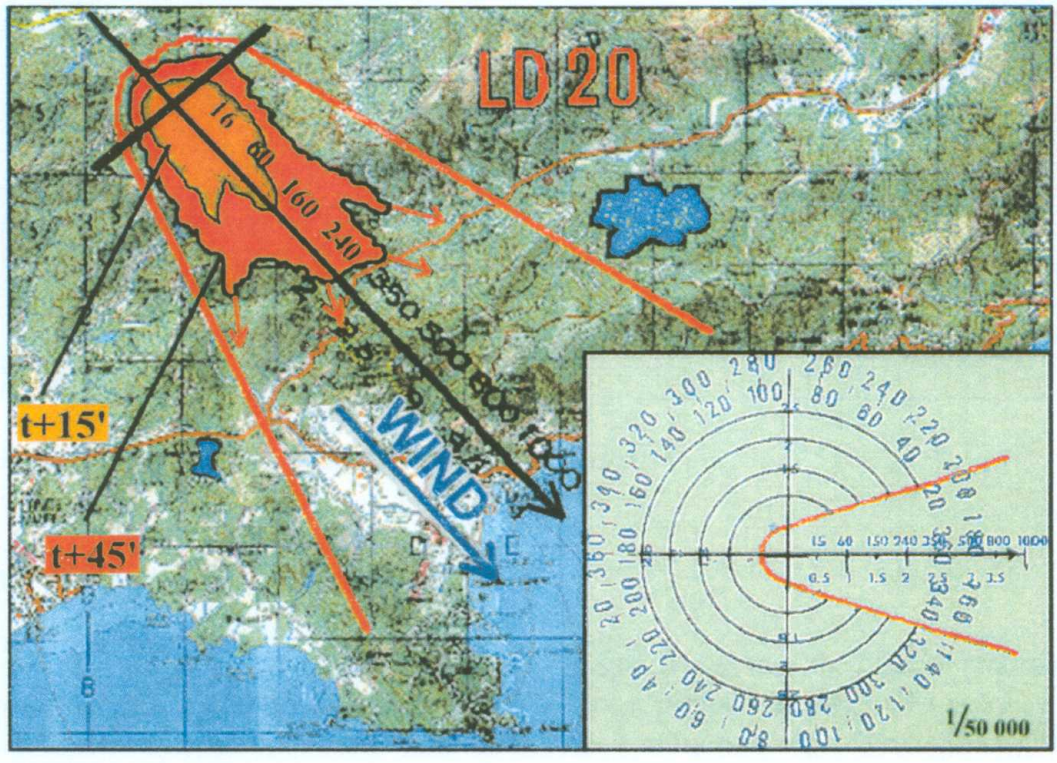

Figure 4. Graph system of fire behaviour anticipation used with a 1: 50 000 map.