

## **Competency-based training and education in Vanuatu have helped improve forest harvesting practices**

**by Ross Andrewartha**

**Harvesting Superintendent  
(Southern Region)**

Forestry Tasmania

79 Melville Street

Hobart, Tasmania 7000, Australia

f 61-3-6233 8252

Ross.Andrewartha@forestrytas.  
com.au

**P**EOPLE differ in their responses and commitment to new standards or technologies and in their ability to put them into practice. Critical to any strategy for improving forest harvesting practices, then, is a structured and systematic approach to the training and education of industry personnel at all levels.

Traditionally, training in forest practices has focused on the inputs, contents and 'time spent' at training courses rather than on the tasks that participants could accomplish after attending such courses. Competency-based training, on the other hand, is a modern training procedure that recognises prior learning and practical experience. It:

- provides objective, pre-determined assessment criteria and clearly specified training outcomes;
- emphasises the essential skills, knowledge and attitudes required to successfully complete a specified task;

- requires trainees to demonstrate competence by completing a task to the required standard. Operator competence is defined as possessing the necessary skills, knowledge and attitude to complete a nominated task satisfactorily using predetermined assessment criteria (usually based on industry standards); and
- provides formal recognition of competence ('competency-based assessment') either internally within an organisation or externally via an industry accreditation scheme.

A systematic approach to competency-based training involves the following steps:

- a detailed 'training needs analysis' (either at the organisational, vocational or individual level);
- a definition of detailed assessment criteria for each task;

**Continued on page 15** ▶

- recruitment and training of instructors and assessors;
- development and delivery of training programs based on the identified training needs and assessment criteria; and
- formal assessment of operator competence and, if required, accreditation.

## **The Vanuatu code**

Vanuatu introduced its *Code of logging practice* (hereinafter referred to as 'the Code') in 1998. Complementary to the Code was a set of reduced impact logging (RIL) guidelines designed to assist field supervisory staff and industry operators to execute a forest harvesting plan (Vanuatu Department of Forests 1999). These guidelines are enforceable by law and specify tree selection and skid trail alignment procedures, maximum skid trail and landing dimensions, and log extraction techniques.

Vanuatu's forest industry is small in international terms but nationally is an important sector. Numerous recent initiatives aimed at improving forest management include:

- a 1994 moratorium on log exports and the development of a downstream processing policy;
- the endorsement in 1998 of a national forest policy;
- revision of forestry-related legislation; and
- the development of flexible silvicultural prescriptions.

## **Training activities**

### **Harvesting planner and supervisor training programs**

The Code requires that all harvesting operations have an approved harvesting plan and are executed in accordance with that plan. Nominated industry supervisors are responsible for plan preparation and operational supervision.

To ensure that the supervisory group had sufficient skills and knowledge to prepare harvesting plans and supervise operations, a series of modular training programs were designed and delivered by staff of the Department of Forests and members of the AUSAID-sponsored *Vanuatu sustainable forest utilisation project* (Andrewartha et al. 2000). Course contents included operational forest planning, data collection, the supervision of harvesting operations, and monitoring procedures. Trainees were required to conduct forest inventories and prepare operational and strategic harvesting plans based on the requirements of the Code.

### **Operator training programs**

Operators are those forest workers involved primarily in road construction and maintenance, tree felling, log extraction and processing. This industry group is characterised by low levels of both skill and literacy.

A modular, progressive approach to training was adopted whereby operators participated in short, formal training programs over a period of months. The training emphasis was on the requirements and practical application of the Code and RIL guidelines; the program provided training on such aspects as directional felling, low-impact skid trail construction, and the conservation of streamside reserves.

Detailed training manuals were developed to assist in providing efficient and effective training and were based on the key components of the Code. The manuals contained session objectives, session notes and supporting visual or training aids. Twenty-one training modules were developed:

these were either compulsory for all harvesting personnel (eg water and soil protection) or vocationally specific (eg restoration requirements) for designated machinery operators. Most courses were structured around the introduction of theoretical principles followed by their practical application in the forest.

Training was delivered and assessed by a dedicated training and assessment team comprising industry and departmental staff using an agreed curriculum. This team participated in trainer-training programs and was involved in the design of the Code implementation strategy.

The industry program, delivered over a six-month period in 1999, was constantly reviewed and refined by the training team, resulting in numerous improvements in course content, structure and methods of delivery.

### **Accreditation of operators**

An operator accreditation scheme was introduced to coincide with the introduction of the Code and RIL guidelines. The scheme is managed by the Department of Forests and involves assessing basic operator competence, including technical skills and knowledge of and compliance with the Code. All major forest industry organisations are required to have accredited operators.

## **Conclusions**

To improve forest harvesting practices, a skilled and trained workforce is essential. Developing such a workforce requires money, resources and support from all levels of management, dedication by forest supervisors, enthusiasm from trainers and, above all, application of the required standards by all forest operators.

All these aspects are intrinsically linked, vary in the support given to them, and can be difficult to measure objectively. However, some key steps are essential for real progress in establishing a competent workforce. These include:

- developing competency-based training and assessment programs;
- developing industry operating standards and assessment criteria on a local, state, national or regional basis;
- developing and implementing internal or external operator accreditation schemes;
- establishing and supporting industry training teams responsible for delivering competency-based programs using a consistent curriculum;
- the continuous review of training programs to assess outcomes and revise the programs where appropriate; and
- establishing and maintaining local demonstration forests for the training and education of the workforce.

## **References**

Andrewartha, R., Raymond, D., Applegate, G. and Wood, D. 2000. Training of trainers in codes of practice for forest harvesting, silvicultural prescriptions and reduced impact logging guidelines: outputs and lessons learnt in the Pacific. In: Bulai, S., Tang, H., Pouru, K. and Masianini, B. (eds) *Proceedings of regional consultation on implementation of codes of logging practice and directions for the future*. Field document No. 3. Pacific Islands Forests and Trees Support Programme, Suva, Fiji. pp 246-253.

Vanuatu Department of Forests. 1999. *Vanuatu reduced impact logging guidelines*. Vanuatu Department of Forests, Port Vila.