UNIT 2: ACTIVITY 1, TRANSPARENCY 2a.

BRIDGING THE GAP BETWEEN ISO 14001 EMS AND ITS APPLICATIONS IN CERTIFICATION OF FOREST MANAGEMENT

UNIT 2: READING MATERIALS & VISUALS

ACTIVITY 1

UNIT 2

ACTIVITY 2

Unit 2

EMS REQUIREMENTS IN THE CERTIFICATION PROCESS

Objectives

On completion of Unit 2, participants will be able to:

1. Specify and differentiate the elements / sub-elements in ISO 14001 Document required in certification of forest management,

2. Give examples of performance standards in forestry activities identified in the certification of forest management in Malaysia and elsewhere, and

3. Recognize some product "eco-labels" and certificates in forestry.

Structural Contents of Unit 2

- **Activity 1: Examples of Activities in Certification of Forest Management Using ISO 14001.**
- **Activity 2: Examples of Label and Certificate and General Discussion.**

PRE-REQUISITE

1. **This Unit should be used in conjunction with ISO 14001 (Environmental management systems - Specification with guidance for use) and ISO 14004 (Environmental management system - General guidelines on principle, system and supporting techniques).**

2. **It provides a bridge between the management system approach of ISO 14001 and the range of forest policy and forest management performance objectives, including SFM Criteria and Indicators that a forestry organization may wish to consider.**

3. **It also provides references to application of forestry laws and regulations and other matters that a forestry organization may want to take into consideration as it implements an environmental management system.**

MALAYSIAN STANDARD

MS ISO 14001:1997

ENVIRONMENTAL MANAGEMENT SYSTEMS - SPECIFICATION WITH GUIDANCE FOR USE

For training use only

ICS : 13.020

DEPARTMENT OF STANDARDS MALAYSIA

ACTIVITY 1

EXAMPLES OF ACTIVITIES IN CERTIFICATION OF FOREST MANAGEMENT USING ISO 14001 EMS

OBJECTIVE

At the end of Activity 1, the participants will be able to:

1. Specify and differentiate the elements / sub-elements in ISO 14001 Document required in certification of forest management, and

2. Give examples of performance standards in forestry activities identified in the certification of forest management in Malaysia and elsewhere.

Environmental policy (ISO Clause 4.2)

OUR ENVIRONMENTAL POLICY

We, **the employees of XYZ, have been entrusted with the management and development of this natural resources. We are responsible to ensure that our objectives, activities, products and services conform with the environment through the following:**

- **We will manage all forest resources (timber and non-timber) within the Production Forests on a sustained yield basis for biological, economic, environmental, and social purpose, subject to yearly review in accordance with legal and applicable laws and regulations.**
- **We will comply with ITTO criteria for the measurement of sustainable tropical forest management; ITTO guidelines for the sustainable management of natural tropical forests; ITTO guidelines on the conservation of biological diversity in tropical production forests; and ITTO guidelines for the establishment and sustainable management of planted tropical forests.**

⇩ OUR ENVIRONMENTAL POLICY -- continue

⇩ We will comply with all applicable legal requirements of National Forestry (Amendment) Act 1993 in managing our resources sustainably.

⇩ We will comply with all applicable legal requirements of Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order of 1987 of Environmental Quality Act 1974..

⇩ We will undertake to practice a policy of "no burning" in all aspects of our forestry resource management.

⇩ We will monitor and continually improve our environmental performance.

⇩ We will undertake to increase environmental awareness of our employees through continuous education and publicity.

Planning (ISO Clause 4.3)

Environmental aspects (ISO sub-clause 4.3.1)

Forest management for timber production causes erosion, sedimentation, soil compaction, bio-diversity change, and wildlife disturbance. Therefore appropriate activities should be identified during planning in order to mitigate its environmental impacts, vis-a- vis:

- **Reduction of erosion, accelerated run-off and sedimentation:**
  - **Zoning of forest by its function (e.g. production, protection, community needs, recreation, etc.)**
  - **Encourage low impact harvesting methods.**
  - **Harvesting and forest road construction during dry season only.**
  - **No blading of top soil.**
  - **Instituting correct road density (both main road, haul road and skid trail).**
  - **Road gradient, width and drainage system in accordance with minimum requirement.**

Environmental aspects (ISO sub-clause 4.3.1)--cont.

- **Reduction of fire hazards:**
  - **Fire management plan for plantation forests based on prevention, detection and suppression.**
- **Prevention of soil, underground water, stream and river contamination :**
  - **Never use chemicals (herbicides and insecticides) that have been banned.**
- **Safeguarding water quality and reduction of water turbidity:**
  - **No blading of top soil.**
  - **Allocation of adequate width of bufferzone around the river or stream during harvesting.**
- **Protecting community health:**
  - **Prevent fire occurrence by awareness campaigns.**
  - **Chemical pesticides identified by WHO as Type 1A and 1B and hydrocarbon pesticides must not be used.**

Planning

Legal and other requirements (ISO sub-clause 4.3.2)

E.g. the Government approved to establish an industrial forest plantation but it dictates that there are other land-use requirements inside such forest plantation affecting its environment, such as only a maximum of 5% of the area is allowed to be covered by buildings and other infrastructure (roads, fire towers, open spaces, etc.). What are then some of the ISO 14001 requirements?

- **A logical step is for the organization to keep record evidence and/or in-situ evidence that various landuse and size of the area occupied by the infrastructure requirements are being fulfilled.**

Planning

Environmental objectives and targets (ISO sub-clause 4.3.3)

A Malaysia example of a forestry organization's environmental policy of minimizing soil erosion from forest road construction prior to and after logging are based on guidelines "*Specification for logging road construction in Peninsular Malaysia 1988*", *"Guidelines for logging in Hill Forest Peninsular Malaysia 1988"*, *"Guidelines for Forest Harvesting 1984"* and *"Criteria, indicators and activities for sustainable forest management, Malaysia 1995".*

Environmental objectives and targets (ISO sub-clause 4.3.3 --cont.)

Therefore, the approach taken by this organization involved the following:

- **Environmental objectives:To implement and control forest management plan effectively with respect to minimizing soil erosion.**

- **Environmental targets: To lay out forest roads and skid trails prior to logging in accordance with the standards in forest management plan. Forest roads and skid trails are measurable in terms of number and area.**

Standard	width	allowable grade
main road	10-12m	10%
branch road	8- 9 m	15%
skid trail	4- 5 m	30%

- **The end results would be less gullies on the road, and reduced suspended solid and turbidity in the stream and river.**

Environmental objectives and targets (ISO sub-clause 4.3.3 --cont.)

Discussion #1: An organization has a policy of protecting underground water from contamination with chemicals and oil to avoid complaints of high acid content in the drinking water.

>> Write down its Environmental objectives and targets <<

- **Environmental objectives:**

  To dispose off used engine oil in an environmentally safe manner and to prevent chemicals used in forest nursery into the stream or river.

- **Environmental targets:**

  The organization improvises proper method of disposing used engine oil by sending to treatment plant and by practicing high hygiene standards in nursery management to prevent chemicals into the nearby stream or river, thus reducing acidity level in drinking water and avoiding potential water pollution.

Planning

Environmental management program (ISO sub-clause 4.3.4)

Using example on soil erosion, the Timber Harvesting (Logging) Department of the organization is entrusted to carry out the responsibility immediately after each phase of operation. Therefore, the unit has to develop, for example, the following environmental management programs:

- Roads, where possible, are located on ridges and uphill skidding is practiced.
- Logging is carried out only during dry season only.
- Logging on areas beyond 30 degrees slope (if necessary) is only by aerial methods. e.g. Skyline.
- After logging, waterbars or cross-drain are constructed across the road and skid trail at a distance of between 20m to 30m so that water flow is reduced in terms of volume and speed and hence soil erosion minimized.

Environmental management program (ISO clause 4.3.4--cont.)

Discussion #2: In the example on used engine oil and chemical in the forest nursery, the following programs to avoid water contamination need to be instituted by the Heavy Equipment/Vehicle Department and Forest Planning /Nursery Department:

>>List down some of its possible environmental programs<<

- **Oil change for heavy vehicles every 5000km and other vehicles every 10000km. Accumulate and send oil to treatment plant.**
- **Information data sheet on uses of chemicals and their safety signs strategically located.**
- **The DOs & DON'Ts lists on the use of chemicals properly displayed.**
- **Store toxic & non-toxic chemicals separately.**
- **Evaluate compliance of ground water safety every 3 months.**

Implementation and operation (ISO Clause 4.4)

Structure and responsibility (ISO sub-clause 4.4.1)

- Successful implementation of EMS starts with the commitment at the highest level of management, down to the lowest levels.
- It calls for full commitment of all employees of the organization.
- Management shall provide resources - skills, technology and finance - required to the implementation and control of its EMS.

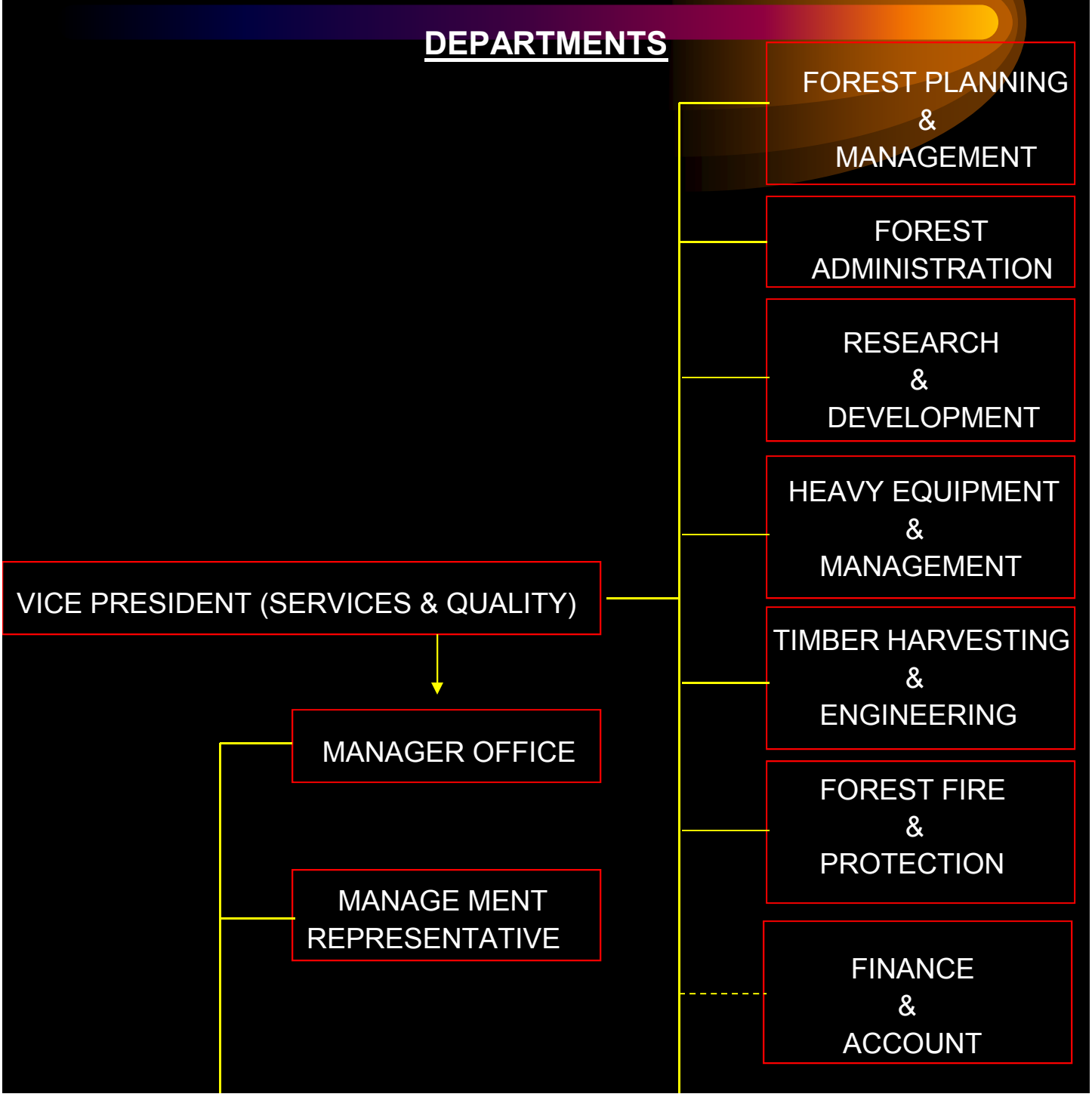
An example of structure and responsibility can be viewed from an Organizational Chart as in Box 10.

Structure and responsibility (ISO sub-clause 4.4.1)

AN EXAMPLE OF ENVIRONMENTAL MANAGEMENT SYSTEM ORGANIZATION

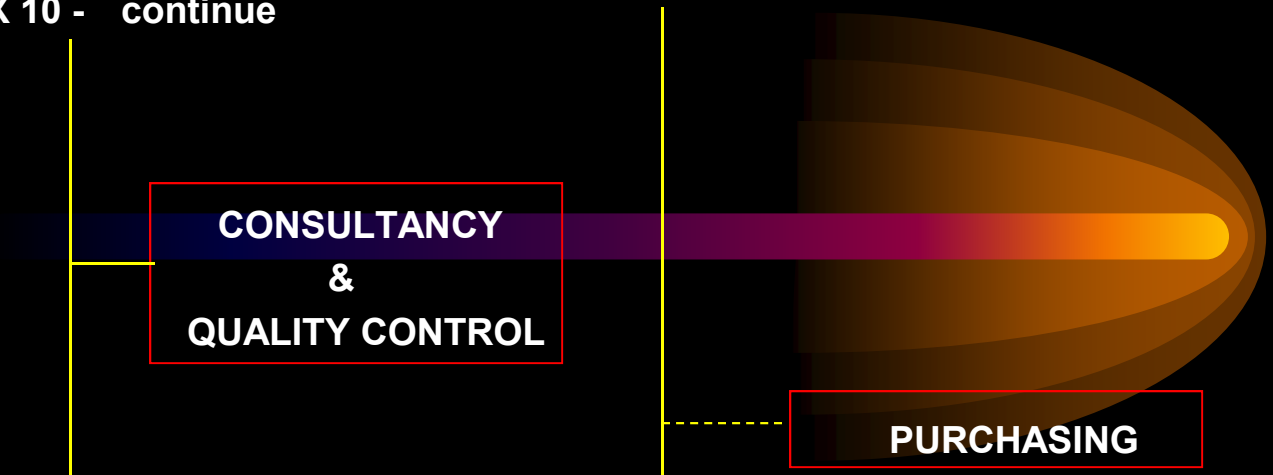
CHART IN FORESTRY

BOX 10



Structure and responsibility (ISO sub-clause 4.4.1)

BOX 10 - continue



- CONSULTANCY & QUALITY CONTROL
- PURCHASING
- PUBLIC RELATION & HUMAN RESOURCE
- SOCIAL & HEALTH
- FOREST DISTRICT X
- FOREST DISTRICT Y
- FOREST DISTRICT Z
- FOREST DISTRICT Q

Total Employee: 3000

Coordination

Function

AN EXAMPLE OF ENVIRONMENTAL MANAGEMENT SYSTEM ORGANIZATION CHART IN FORESTRY

Implementation and operation

Training, awareness and competence (ISO sub-clause 4.4.2)

Organization shall identify training needs for all its employees and all contractors working on its behalf are able to show that their employees have had the required training in activities that may create a significant impact on the environment.

Using the same example on minimizing soil erosion, the organization can provide the following:

- **Ensure that harvesting personnel and contractors have adequate level of expertise and are subject to appropriate training in, e.g. low impact logging techniques and proper water-bars and cross-drain construction on the road.**
- **Appropriate sized stream and lake buffers are not deliberately disturbed.**
- **No ponding (i.e. water logged) behind stream and river crossing.**

Training, awareness and competence (ISO sub-clause 4.4.2 -- cont.)

Discussion #3: Another example and a frequently overlook activity is training on forest fire fighting. The following could be instituted:

>>List down a few activities<<

- **Enforce manning procedure of fire tower inside the forest plantation, even during period where forest fire is least expected.**
- **Institute forest fire fighting drill, at least once every 6 months.**
- **Enforce preventive maintenance of forest fire fighting equipment.**

Implementation and control

Communication (ISO sub-clause 4.4.3)

Organization shall establish and maintain procedures for internal communication within the organization and with external interested parties concerning its environmental aspects and environmental management system.

For example: Protecting water supply from contamination, a form of communication with the employees is by:

- **Displaying information data sheet on the proper use and handling of chemicals and fertilizer.**
- **Strategically locating safety signs and instructions dealing with chemical and fuel storage.**

Implementation and control

Environmental management system documentation (ISO sub-clause 4.4.4)

Organization is required to maintain documents, in paper or electronic form

- **to describe the core elements of the environmental management system and their interaction, and**
- **provide direction on where to obtain detailed information on the operation of its environmental management system.**

As such the organization should have organization charts, process information, manning procedure of an activity, on-site emergency plans, etc.

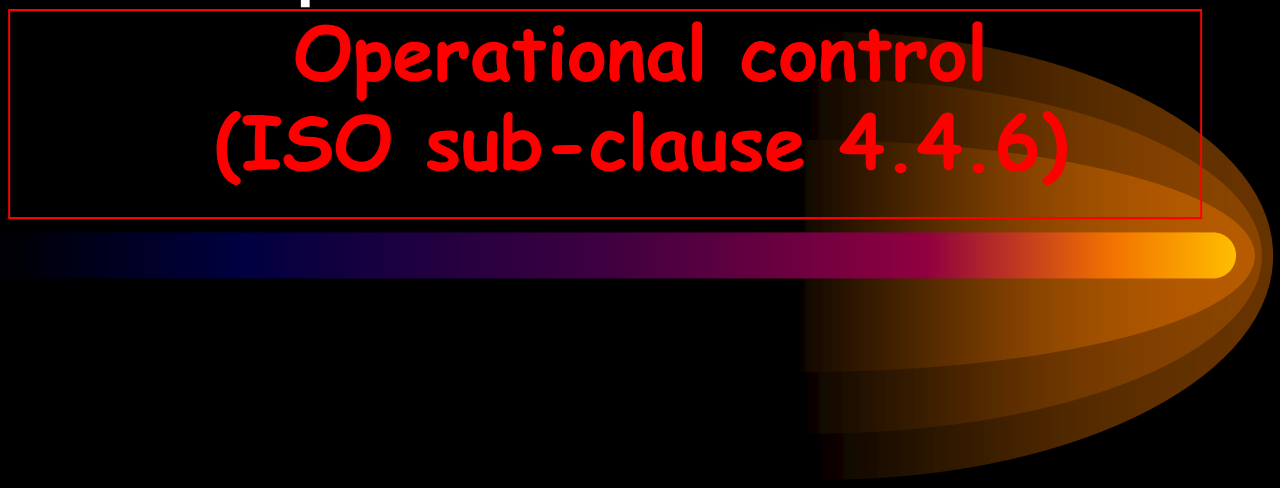
Implementation and control

Document control (ISO sub-clause 4.4.5)

Organization is required to maintain documents for effective implementation of its environmental management system and on its environmental performance. Documentation shall be legible, updated, and readily identifiable.

Implementation and control

Operational control (ISO sub-clause 4.4.6)



Organization shall identify those operations and activities that are associated with the identified significant environmental aspects in line with its policy, objectives and targets.

An example of matrix for screening significant environmental impacts of a forest logging operation (FRIM 1997) is given in Table 1.

Table 1:

MATRIX FOR SCREENING SIGNIFICANT ENVIRONMENTAL IMPACTS OF FOREST LOGGING OPERATION

Note: Please copy from the text due to size limitation when scanning

>>Given as Handout 2.1a<<

Implementation and control

Emergency preparedness and response (ISO sub-clause 4.4.7)

Organization shall establish and maintain procedures to identify for and respond to accidents and emergency situations.

It shall test periodically where practicable, review and revise such procedures.

e.g. (I) Forest fire occurrence, (2) Chemical and fuel contamination, the organization should have and display its:

- **Emergency response chart in case of a forest fire.**
- **Emergency response chart in case of chemical and fuel explosion.**
- **Containment procedures in case of fuel leakage to the ground.**

Checking and corrective action (ISO Clause 4.5)

Monitoring and measurement (ISO sub-clause 4.5.1)

An organization must establish and maintain documented procedures to monitor and measure its operations and activities that can have significant impacts on the environment.

In the above example on minimizing erosion, the following could take place:

- **Necessities and effectiveness of water-bars and cross drains monitored and water flow measured.**
- **Gullies on the roads monitored and turbidity and suspended solids in the stream or river measured as a result of erosion due to logging**
- **Color of water in the river monitored and its pH measured as a result of erosion due to logging and road construction.**

Checking and corrective action

Nonconformance and corrective and preventive action (ISO sub-clause 4.5.2)

An organization must establish and maintain procedures for

- **identifying, investigating and correcting nonconformance,**
- **implementing its corrective actions,**
- **avoiding repetition of the nonconformance,**
- **recording any changes of its corrective actions.**

E.g.: Security of forest land tenure is an important element in ensuring sustainable forest management. Therefore it is important to:

- **provide evidence of legal and clear land tenure.**
- **institute options and legal requirements and prepare mitigating measures in case of long term land tenure cannot be secured.**
- **provide corrective action if land tenure conflict with local people cannot be solved within the shortest time possible.**

Nonconformance and corrective and preventive action (ISO sub-clause 4.5.2 --cont.)

Referring to the example on minimizing soil erosion, the organization should take , for examples:

- **Corrective measures to reduce erosion.**
- **Corrective measures to avoid slope failure.**
- **Preventive road maintenance**
- **Not to over-load logging trucks.**

Checking and corrective action

Records (ISO sub-clause 4.5.3)

An organization must establish and maintain procedures for:

- **identification,**
- **maintenance and disposition of its environmental records, e.g.**
  - **complaint,**
  - **training,**
  - **inspection and calibration, and significant environmental records;**
  - **process, product, contractor and supplier information, and**
  - **audit and management review records.**

Checking and corrective action

Environmental management system audit (ISO sub-clause 4.5.4)

- ISO 14001 requires comprehensive, impartial and objective auditing to meet an organization's policy, objectives and targets.

Audit covers its:

- scope
- frequency
- methodology
- responsibility
- communication of audit's results.

- Audit may be performed by personnel from within the organization or from external personnel.
- In conducting environmental auditing, reference should be made to Guidelines for environmental auditing, i.e. ISO 14010, 14011, 14012 documents, even though ISO 14001 does not specify their uses.

Management review (ISO Clause 4.6)

- **Pre-requisite to an organization's continual improvement, suitability, adequacy, and effectiveness of its EMS and hence its performance.**

- **Address for the need to changes to its EMS policy, objectives and targets.**

- **E.g. a forestry organization may form:**

Technical Review Committee to oversee the results of the audit on the environmental training program and to prepare for a new cycle of review and auditing.

Program Advisory Committee to oversee its research and development program and forest management performance standards for sustainable forest management.

SUMMARY OF ACTIVITY 1

- The goal of an EMS in certification of forest management is to improve forestry practices over time in order to achieve sustainable forest management in the long term.

- It is recognized that many forestry organizations plan to obtain ISO 14001 EMS certification in its forest management, but
  - they must first establish a set of performance standards, or at least subscribe to an already existing set that is applicable to their forest practices.

- As certification is market driven, the use of ISO 14001 in certification of forest management is attracting many forestry organizations, and that
  - they have to set their environmental policy, objectives and targets that are appropriate to their forest management objectives, scale of operation, cultural and political environment, and the magnitude of environmental aspects and impacts.
  - as a minimum they have to make a commitment to legal compliance and to meet the requirements of their performance standards.

UNIT 2: ACTIVITY 2, TRANSPARENCY 2.2a

ACTIVITY 2

EXAMPLES OF LABEL AND CERTIFICATE & GENERAL DISCUSSION

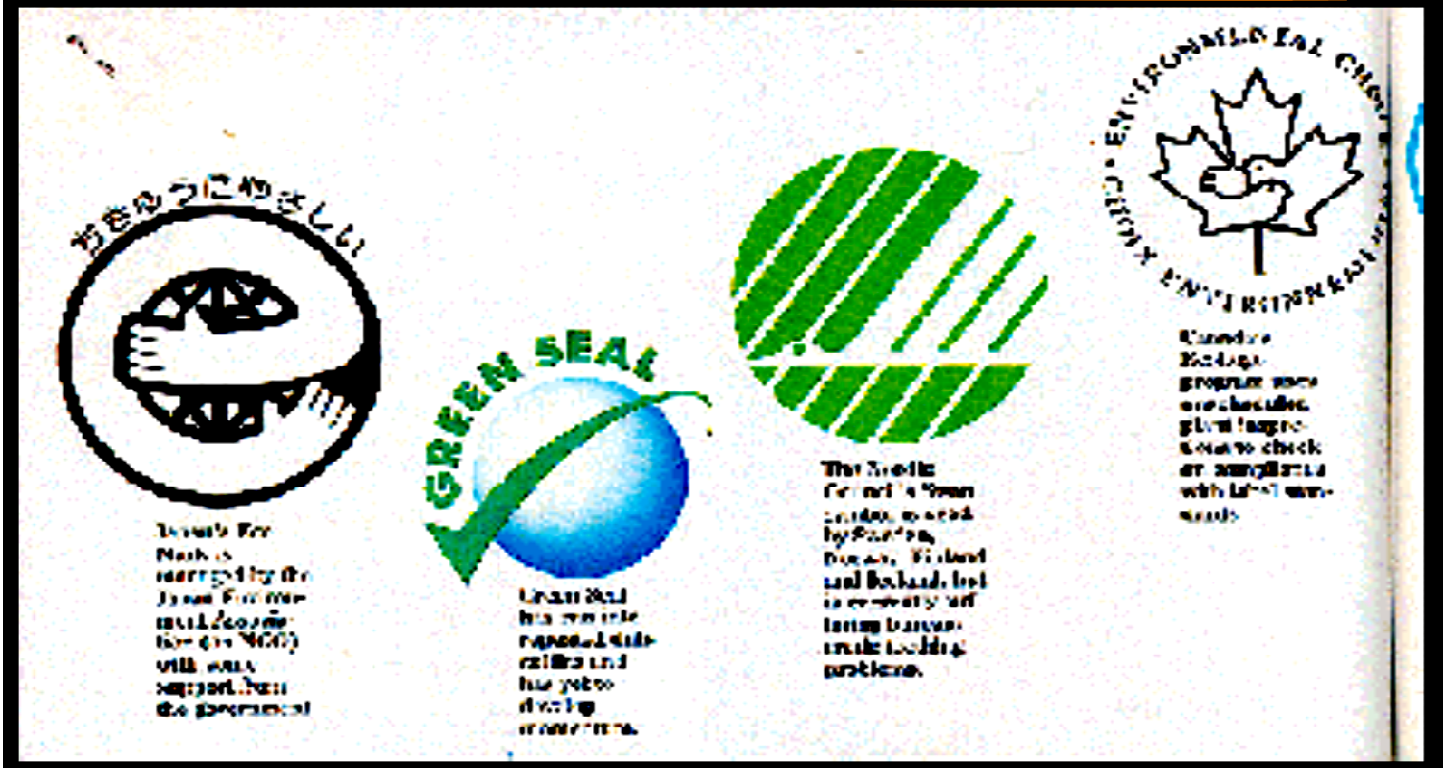
OBJECTIVES

At the end of Activity 2, the participants will be able to:

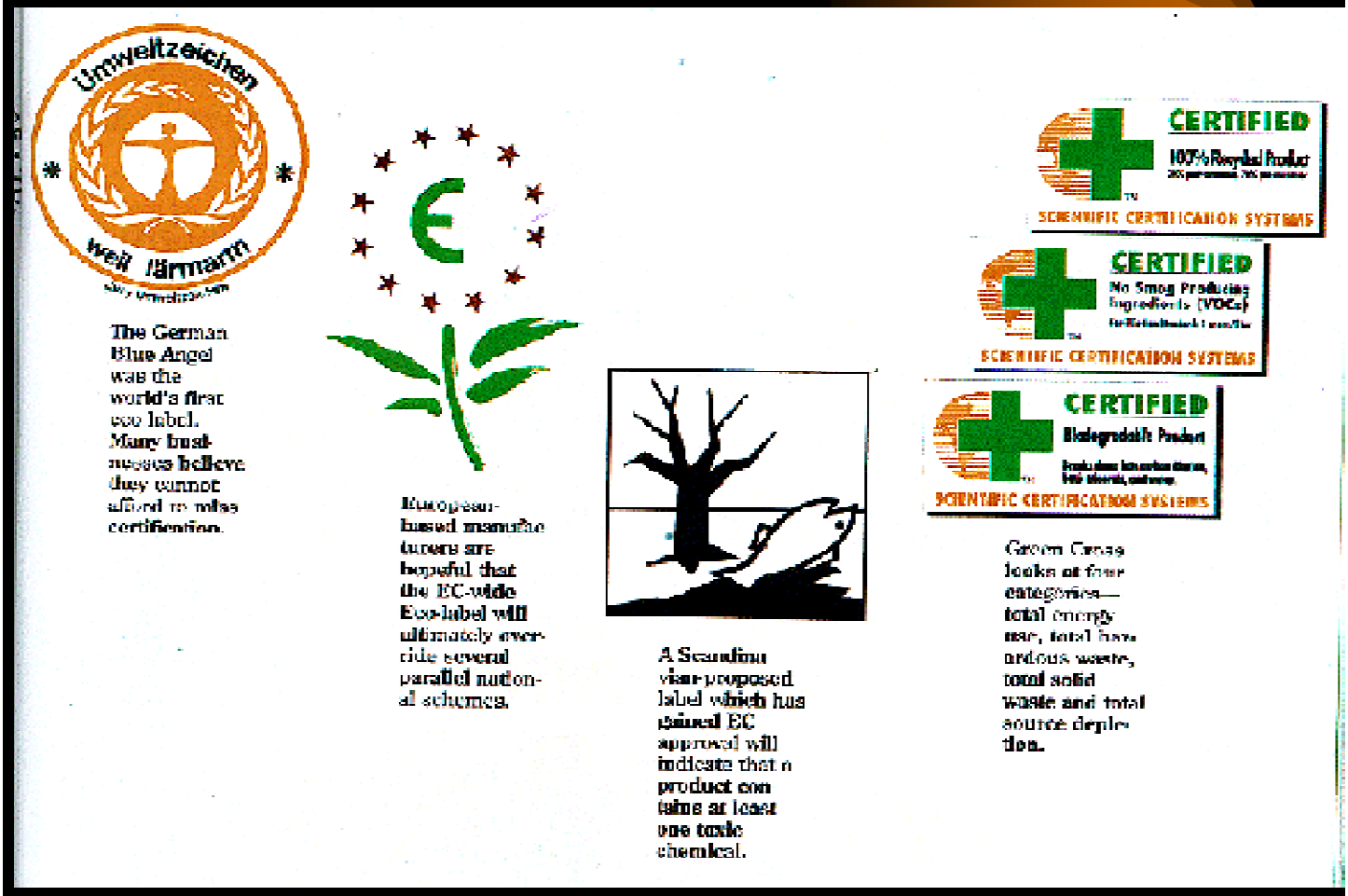
1. **Recognize some product "eco-labels" and certificates of forest management in Malaysia.**

UNIT 2: ACTIVITY 2, TRANSPARENCY 2.2b

EXAMPLES OF ECO-LABEL 1



EXAMPLES OF ECO-LABEL 2



The German Blue Angel was the world's first eco label. Many businesses believe they cannot afford to miss certification.

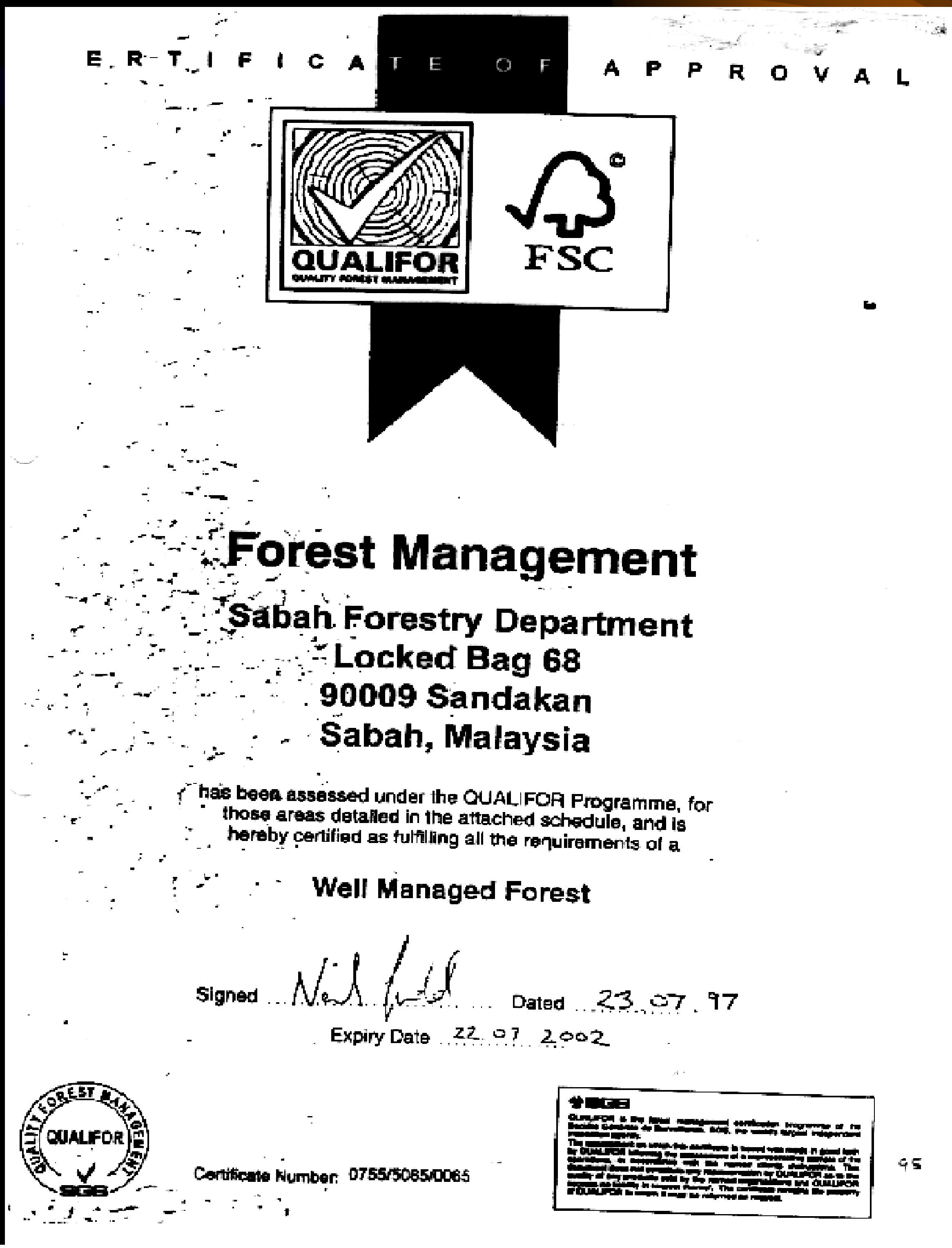
European-based manufacturers are hopeful that the EC-wide Eco-label will ultimately override several parallel national schemes.

A Scandinavian-proposed label which has gained EC approval will indicate that a product contains at least one toxic chemical.

Green Cross looks at four categories—total energy use, total hazardous waste, total solid waste and total source depletion.

UNIT 2: ACTIVITY 2, TRANSPARENCY 2.2d

EXAMPLE OF CERTIFICATE & ECO-LABEL 3



ERTIFICATE OF APPROVAL

QUALIFOR
QUALITY FOREST MANAGEMENT

FSC

Forest Management

Sabah Forestry Department
Locked Bag 68
90009 Sandakan
Sabah, Malaysia

has been assessed under the QUALIFOR Programme, for those areas detailed in the attached schedule, and is hereby certified as fulfilling all the requirements of a

Well Managed Forest

Signed .... Dated 23.07.97

Expiry Date 22.07.2002

QUALITY FOREST MANAGEMENT QUALIFOR SGS

Certificate Number: 0755/5085/0065

95

EXAMPLE OF CERTIFICATE 4

SGS (Malaysia) Sdn. Bhd.
Forestry Services Division

Certificate
of
Forest Management
to
Sabah State Forestry Department
Locked bag 68, 90004 Sandakan
Sabah, Malaysia

The forest management practices of the Sabah State Forestry Department in Deramakot Forest Reserve have been assessed under the Malaysian Criteria, Indicators, Activities and Management Specifications for Forest Management Certification (MC&I).

SGS (Malaysia) Sdn Bhd. hereby certifies that the forest management practices of the Sabah State Forestry Department used in Deramakot Forest Reserve adequately fulfill the requirements of the MC&I.

Certificate Number : CFM-97/001

Issuance Date : 12 August 1997

Expiry Date : 11 August 2002

SGS (Malaysia) Sdn Bhd
(Company No. 19971-H)

Name : Charles W. Upchurch
Position : Managing Director

SGS The statement on which this certificate is based was made in good faith by SGS (Malaysia) Sdn Bhd following a comparative study of the requirements of the MC&I with the results of an assessment of a representative sample of the operations in accordance with the normal criteria/procedures. This statement does not constitute any statement/warranty to the quality of any products used by the forest organizations and SGS (Malaysia) Sdn Bhd accepts no liability in respect thereof. The certificate remains the property of SGS (Malaysia) Sdn Bhd to whom it must be returned on request.

SGS (Malaysia) Sdn Bhd 3rd Floor Bangunan Jalan Maarof, Jalan Bukit Maarof, 59400, Kuala Lumpur, Malaysia
TH : 03-255-6288, Fax : 03-255-6[illegible]

EXAMPLE OF CERTIFICATE 5

SGS (Malaysia) Sdn. Bhd.
Forestry Services Division

Provisional Certificate

for

Forest Management

to

Pahang State Forestry Department

Tingkat 5 Kompleks Tun Razak,
Bandar Indera Mahkota, 25990 Kuantan, Malaysia

Provisional certification of forest management against the Malaysian Criteria & Indicators (MC&I) is granted for the Pahang State Forestry Department, whereby :

(i) The Pahang State Forestry Department must achieve full compliance with the requirements of the MC&I as listed in Schedule 1 by the year 2000, consistent with the ITTO guidelines for the sustainable management of tropical forests.

(ii) Maintenance of this certificate will be dependent upon a demonstration of continuous improvement against a timetable for completion of the items listed in Schedule 1. *This must be verified through annual assessments by SGS (Malaysia) Sdn Bhd.*

Certificate Number : PFM-96/003

Issuance Date : 16 December 1996

In witness thereof, the parties have agreed to the terms outlined in this Provisional Certificate for Forest Management and the attached schedule.

Pahang State Forestry Department

Name : Dato' Haji Abdul Rashid b. Mat Amin
Position : Director
Place : Kuala Lumpur, Malaysia

SGS (Malaysia) Sdn Bhd
(Company No. 10871-T)

Name : Charles W. Upchurch
Position : Managing Director
Place : Kuala Lumpur, Malaysia

UNIT2, ACTIVITY 2, TRANSPARENCY 2.2g

EXAMPLE OF CERTIFICATE & ECO-LABEL 6

CERTIFIED

Duratex, S.A.*
Wood harvested from a Well-Managed Plantation

*Botucatu, Lençois & Agudos plantations only

	RATING
SUSTAINABLE HARVEST.....	92
ECOSYSTEM HEALTH.....	86
COMMUNITY BENEFITS.....	91

(MAX. THEORETICAL RATING: 100)

TM

SCIENTIFIC CERTFICATION SYSTEMS

EVERY TREE SHOULD CARRY THIS ID.

DURATEX proudly announces that its products now have been certified with the Green Label, which ensures that the trees are extracted from environmentally managed forests. Duratex products are the first in Latin America to have been awarded this seal. This has been achieved through correct soil conservation and controlled planting and harvesting, improving the environment and surrounding communities. Duratex has an information system which allows the company to rationally manage its forests and control cutting. The Company has adopted state-of-the-art techniques and procedures. Chemical products are applied with strict control. Duratex has an effective ongoing reforestation program which assures controlled soil productivity. Duratex endorses community health programs and cherishes good relations with the local communities. That is why it has earned this certificate with the high grades in all areas, especially in conservation.

Duratex

Circle # 4 on Reader Service Card

EXAMPLE OF ECO-LABEL 7

Examples of Type II Labels:

Recyclable: The two forms of Mobius Loop

Has recycled content

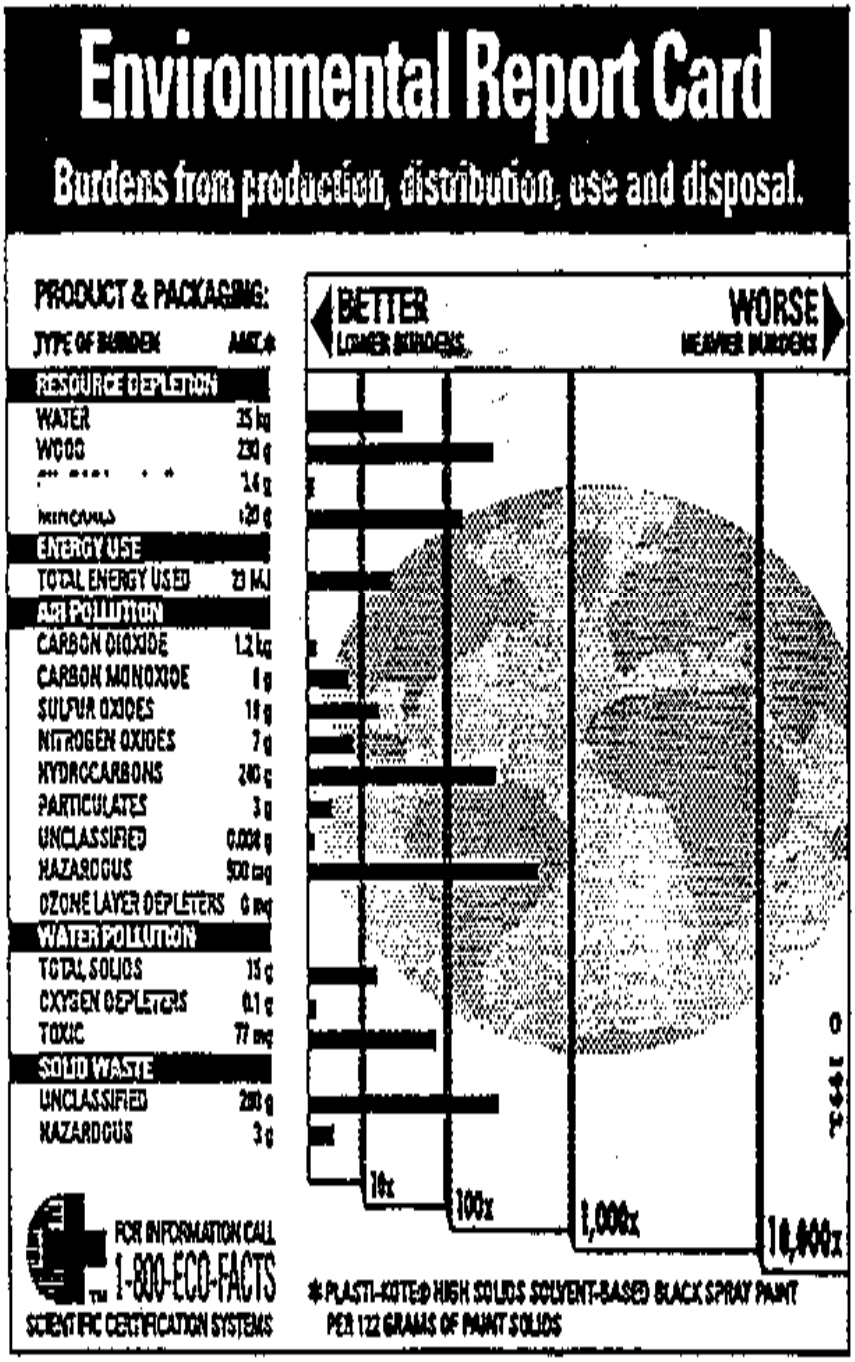
Type III - Quantified product information labels based on preset indicators which are derived from findings of a Life Cycle Assessment (LCA). LCA assesses the environmental impact of a product from 'cradle to grave'.

EXAMPLE OF ECO-LABEL 8

PAN-EUROPEAN FOREST CERTIFICATION SCHEME: LAUNCHED 30 JUNE 1999, PARIS

USING THE ENVIRONMENTAL REPORT CARD TO COMPARE PRODUCTS

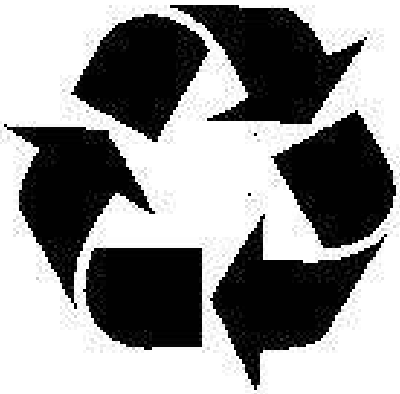
TYPE III: ENVIRONMENTAL LABEL #9



PLASTI-KOTE® HIGH-SOLIDS SOLVENT-BASED BLACK SPRAY PAINT

TYPE II : ENVIRONMENTAL LABEL #10

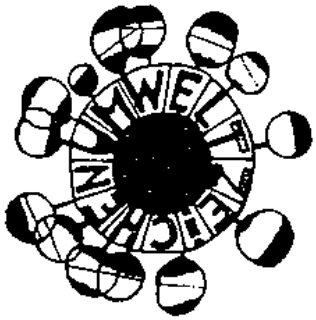
THE MOEBIUS LOOP
ISO 14021



Recyclable

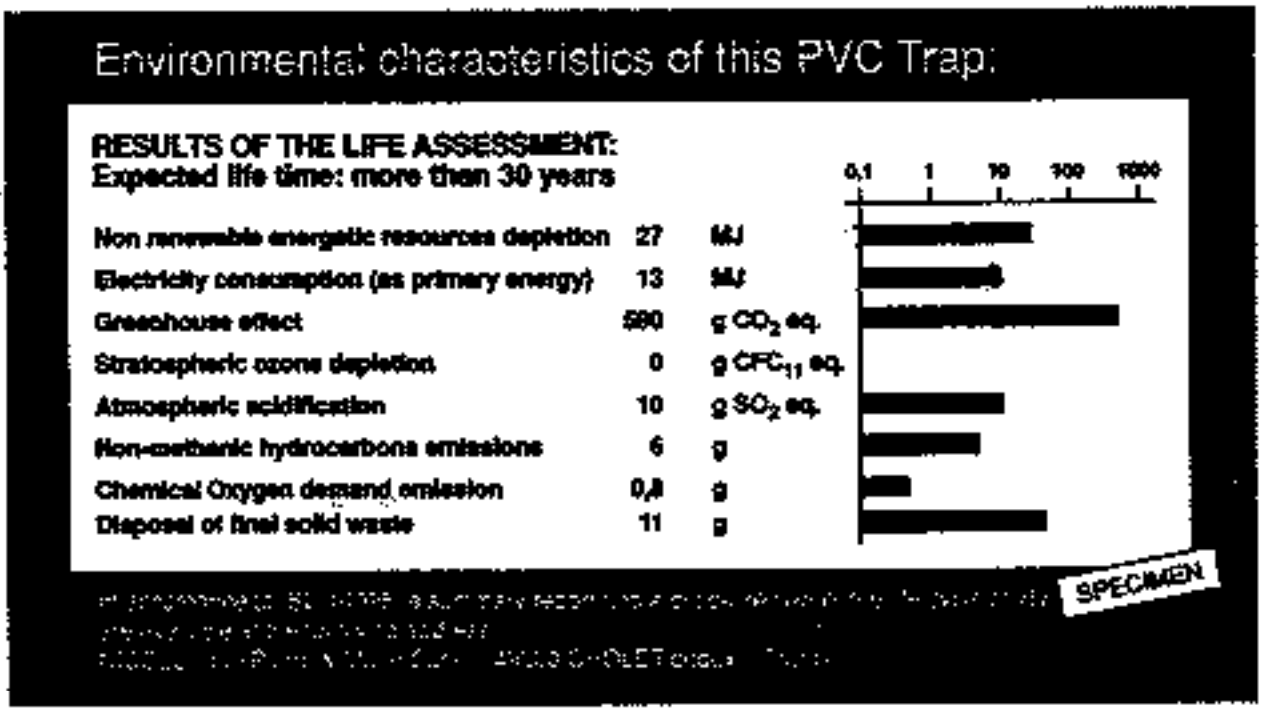
65 % Recycled content

TYPE I : ENVIRONMENTAL LABEL #11



A Type III Label:

#12



Q3. Why is environmental labelling important ?

A3. In the last few years, there has been an increasing number of national standards on environmental labelling. There are now about 20 national and non-government organisations who have initiated environmental labelling schemes worldwide. This include developing countries like Brazil, India and the Republic of Korea.

BENEFITS OF ISO-BASED CERTIFICATION

- Translated policies and words into concrete actions;
- Helped to ensure compliance with all applicable laws and regulations;
- Required the implementation of standard operating procedures with clearly defined standard of forestry performance which result in operating efficiency;
- Introduced systematic third party audits which bring transparency and credibility to the claim that forests are well managed;
- Improved relationship with customers, and as a result, marketing advantages have emerged;
- Improved training of staff and (sub-) contractors, which has resulted in increased awareness and commitment to environmental performance, as well as higher employee motivation and skill levels;
- Reduced the risks of accidental environmental impacts; and
- Resulted in continual improvement of the EMS and environmental performance.

SUMMARY OF ACTIVITY 2

- Eco-labels are not new but its implementation has been mainly for manufactured products.
- With the current environmental consciousness, forest management practices have been subjected to certification as part of products' life cycle.
- Currently, forest certification or a written certificate of approval can be issued by an independent third-party to attest that the management status of the forest as fulfilling all requirements of a set of performance standards from which the timber originated.
- Certification of forest management using a set of forest management performance standards and ISO 14001 EMS procedures is likely to gain momentum and acceptability.

THANK YOU