



**Bolivian Council for  
Voluntary Forest  
Certification**

**STANDARDS FOR CERTIFICATION OF FOREST MANAGEMENT OF  
TIMBER-YIELDING PRODUCTS IN THE LOW LANDS OF BOLIVIA**

**Approved by the CFV Board**

**SANTA CRUZ  
BOLIVIA  
MAY, 1998**

**Bolivian Council for Voluntary Forest Certification  
Tel/Fax (++591-3) 372175, No. 7175 Castilla, Santa Cruz, Bolivia  
E-mail:CFV roble.scz.entelnet.bo**

**1. INTRODUCTION**

The standards for voluntary forest certification in Bolivia herewith presented, have been prepared by a multidisciplinary-disciplinary group from the social, productive, environmental and technical areas related to the management of natural forests in the low lands, taking into account the conditions and particular local features of Bolivia. Their objective is to determine when forest management can qualify as environmentally appropriate, socially beneficial and financially feasible, in order to be inserted in the international voluntary forest certification system.

The standards are applicable to voluntary certification of forest management for the production of timber in Bolivia's low lands in natural tropical wet forests, sub tropical wet forests and dry forests, with or without intervention. Not included are rainforests, warm valley or mountain forests, nor forest plantations. In this draft, Principles 10 and its Criteria (plantations) are not included, since, as mentioned above, these standards are applicable to natural forests, although for formal purposes, they are part of the standards.

The certification system to which the aforesaid standards refer is of an entirely voluntary nature and operates based on market mechanisms and forces, within a framework of transparency and free competition, each forest producer having the privilege of joining the system or not.

For the effects of the application for certification it is understood that forest management is:

- a) **Environmentally appropriate:** When it guarantees the long-term conservation of forest productivity, biological diversity and the ecological processes;
- b) **Socially beneficial:** When it fully complies with the legislation that protects the workers, provides correct wages and timely payment of taxes, rights, royalties and benefits as agreed, offers respect for the rights and prerogatives of indigenous people and local communities; giving evidence of a vocation for the respect of the ethical and social Principles in all the areas to be developed;
- c) **Economically feasible:** When the model of forest management that has been implemented is profitable, there is the financial assurance that the investments in the forest will continue to be made; without being left at the expense of long-term forest or ecological sustainability, nor of social abuse.

## 2. ADHERENCE TO THE PRINCIPLES AND CRITERIA OF THE FSC

These standards include Statutory Bases, Principles and Criteria (P&C) for Natural Forest Management and the guidelines for use by the Certifiers of the Forest Stewardship Council (FSC).

Given the dynamic nature of the criteria of sustainability, which depends upon the degree of development of science, technology, level of training of human resources, social awareness, financial capability, technological accessibility and other factors, these standards will be periodically revised as required.

The Standards for Voluntary Forest Certification and their modifications come in force when approved by the Bolivian Council for Voluntary Forest Certification (CFV), and are ratified by the

FSC.

### **3. BASIC PRINCIPLES**

These Principles adhere specifically to the following general standardisation Principles of conservation and sustainable development, which are to be observed by the certifiers:

#### **a) Legality Principle**

The essential purpose of voluntary forest certification is to collaborate in the obtention of full compliance with the legislation, byelaws, and instruments of international law seeking responsible forest management; to contribute to its implementation in the field, and to cover its gaps without denaturalising their meaning; but not to create a state of parallelism or confrontation between the voluntary system and the official standards. For the purposes of these Principles, besides international treaties, legislation and byelaws, the international declarations and resolutions technically recognised as subsidiary sources of international law are considered to be official standards. The system of voluntary certification will periodically edit and update a compendium of the national and international official standards that constitute the legal framework of the system.

#### **b) Gradualness Principle**

The sustainability of forest management is not a univocal process nor is it a definitive, predictable and unmovable objective, but rather a dynamic process and a progressive succession towards attaining the goals. It is not always possible to reach the desirable levels of sustainability within peremptory time limits. Rather than an unyielding application of the indicators, it is relevant for the effects of voluntary certification that the actors give evidence of an ethical commitment to conservation and sustainable development and a firm will, continued and sustained, to advance towards ever higher levels of ecological, economic and social sustainability in forest management. In this sense, it is recommended that certifiers apply during certification a grading system that reflects the degree of compliance with the standard (for instance, through a scale of 1 to 5), and to incorporate in their assessments the recognition of the so-called "Principles of Gradualness". On the other hand, it must be taken into account that in some cases one or more standards could not be applicable to the operation, and these must be registered as "not applicable", making clear the reason for this non-applicability.

#### **c) Precautionary Principle**

When sufficient evidence exists that a given practice or omission in forest management could cause serious or irreversible environmental damages, those responsible for the management of a forest cannot omit adopting the measures that will lead to their prevention or mitigation, invoking the lack of full scientific certainty in this regard.

#### **d) Principle of the Best Available Technology**

Those responsible for forest management must progressively incorporate the most environmentally

recommendable technologies available in the market and feasible in economic, organisational and social terms.

#### **4. DEVELOPMENT OF STANDARDS**

##### **The process**

In October of 1994, the government issued the summons for a national meeting called forth to discuss the feasibility and advisability of encouraging a process of voluntary forest certification. The meeting concluded that independent forest certification should be encouraged, in accordance with the philosophy and the Principles and Criteria of the FSC. The meeting established a committee to promote forest certification, which later designated an Organising Committee for forest certification.

This Organising Committee immediately established a "Standards Committee", and the following year, on June 12, 1996, the Bolivian Council for Voluntary Forest Certification was founded.

Since its creation, the Standards Committee has consistently worked to formulate the standards, whose final draft is version No. 7, approved by the Board of CFV. In order to reach this version, the Committee has followed the FSC guidelines ("FSC Guidelines for the development of national / regional standards for forest management"). The standards presented have been enriched through the revision of experiences and publications of other standards, indicators and available documentation applicable to the region, for the purpose of harmonisation. The standards presented here are the result of over three years of consultations, discussions and adjustments.

The process followed is summarised below:

- a) Draft preparation by the Standards Committee, made up of representatives from the various sectors involved (October, 1994)
- b) Public consultation on an advanced version
- c) Preparation of new drafts taking into consideration the results of the public consultation.
- d) Field test through an organisation independent of the Standards Committee (December of 1997, tested at La Chant concession). Smart Wood was engaged as consultant.
- e) Preparation of a new draft (draft No. 6), taking into account the results of the field test and the recommendations made by the consultant.
- f) Public consultation of Draft No. 6
- g) Final Draft No. 7 (considering the comments from the consultation) and approval by the CFV Board

##### **Mechanism for Revision**

The CFV will maintain a permanent policy of reception of comments and observations regarding these standards. The observations received will be presented to the Board, which will determine the pertinence of such observations and suggestions, to decide whether the need exists to summon a meeting of the Standards Committee to analyse them and make their recommendation. In any case, the CFV will keep a detailed record of all the observations received and of the treatment they have been accorded.

## **The Members of the Standards Committee**

The Standards Committee is formed by members of the various interested sectors, whose participation has been of variable intensity throughout the process. but, in general a balance of interests has been maintained. The members are the following:

### **Economic Chamber**

Damir Matkovic (PROMABOSQUE)  
Pablo Antelo (Empresa La Chonta)  
Gerd Resnikowski (Empresa Tarumá)  
Fernando Velarde (Empresa CIMAL)  
Alberto Arce (observer for CIMAL)

### **Environmental Chamber**

William Cordero (BOLFOR Project)  
Leónidas Vega (Forestry Consultant)  
Amado Olivera (Former APCOB)  
Lincoln Quevedo (CFV)  
Damián Rumiz (BOLFOR Project)  
Richard Mansilla (Forest Supervisor)  
Andrew Taber (WCS)  
Abraham Guillén (Observer, CFV)

### **Social Chamber**

Rosario León (FTPP/FAO)  
Victor Chuvé (APCOB)  
Roberto Balza (Former SNV)

**PRINCIPLE 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES**

*Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.*

**CRITERION 1.1** Forest management shall respect all national and local laws and administrative requirements.

**Indicator:**

1.1.1. The person responsible for forest management agrees to manage and exploit it in accordance with the laws, regulations and legal standards in force.

**CRITERION 1.2** All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.

**Indicator:**

1.2.1. Payment for forest patents, taxes, fines and counterbenefits that behoove to the forest management activity, in accordance with the legal provisions in force.

**CRITERION 1.3** In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.

**Indicator**

1.3.1 Forest management must comply with and respect all national laws and Bylaws, including the following:

- Forestry Act 1700, Bylaws and technical standards in force
- Agreement of the International Organisation of Tropical Woods
- Agreement 169 of the International Labour Organisation
- Agreement regarding Biological Diversity.
- Agreement regarding International Trade of Endangered Species of Flora and Fauna (CITES)
- Framework Convention regarding Climatic Changes
- The United Nations Convention of the Struggle against Desertification and Drought
- Amazonic Co-operation Treaty

International trade agreements (in case of apparent conflicts between a trade agreement and the outline of forest certification, such as GATT which establishes that “no trade restrictions may be established to discriminate between similar products manufactured by various production methods”; the participants of the certification process maintain the postulates and mandate of forest certification, these being of voluntary application, which is another reason they constitute no restriction).

**CRITERION 1.4** Conflicts between laws, regulations and the FSC Principles and Criteria shall

be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.

**Indicator:**

1.4.1 In case any conflict is perceived in the interpretation and implementation of certification, as linked to P&C of the FSC, local standards, international agreements and the legislation of Bolivia will be referred firstly to the CFV. In case no agreements are reached, the conflict will be derived to the FSC for its resolution.

**CRITERION 1.5** Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.

**Indicators:**

1.5.1 There exist preventive actions that are effective and acceptable, provided they are legally applicable, against invasion by third parties, which may affect the management process.

1.5.2 The boundaries are appropriately identified in the terrain and in case of conflict there exist actions leading to the resolution thereof.

**CRITERION 1.6** Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.

**Indicators:**

1.6.1 The person responsible for the management has adhered in writing -or such adherence is reflected in the management plan- to the Principles and Criteria of the FSC.

1.6.2 The land is devoted to forest management for a lengthy period of time.

**PRINCIPLE 2: TENURE AND USE RIGHTS AND RESPONSIBILITIES**

*Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.*

**CRITERION 2.1** Clear evidence of long-term forest use rights to the land (e.g. land title, customary rights, or lease agreements) shall be demonstrated.

**Indicators:**

2.1.1 Land tenure or rights of use of same is ensured and legal.

2.1.2 Long-term forestry plans are drawn up and executed on these lands.

**CRITERION 2.2** Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

**Indicators**

2.2.1 There exists agreement in the community for long-term forest management and the latter controls the processes related to such management.

2.2.2 In case the utilisation were to be delegated to third parties, there are clear agreements or contracts in which local and community standards for the control of forest activities are respected.

2.2.3 The plans for forest management are agreed upon in common, and are based on practices of participative planning, execution and local control.

**CRITERION 2.3** Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.

**Indicators:**

2.3.1 There are no serious conflicts regarding land tenure and / or possession which may put forest operations at a risk.

2.3.2 If a potential for conflicts exists, there are written mechanisms to prevent them. If conflicts arise, there are written mechanisms and actions for their resolution, wherein the strategies for negotiation of the local population are recognised, and the participation of a mediator accepted by mutual agreement within the legal framework in force. Such mechanisms are included in the Management Plan.

2.3.3. There exists a policy of public relations between the person responsible for management and the neighbouring communities or those affected by the aforesaid management.

**PRINCIPLE 3: INDIGENOUS PEOPLES' RIGHTS**

*The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.*

**CRITERION 3.1** Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.

**Indicators:**

3.1.1 There exists agreement among the indigenous community to carry out long-term forest management, and it has control over the procedures related to such management.

3.1.2 In case utilisation were to be delegated to third parties, there are clear agreements or contracts in which local and community standards are respected with regard to the control of forest activities.

3.1.3 The plans for forest management are agreed upon in common, and are based on practices of participative planning, execution and local control.

**CRITERION 3.2** Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

**Indicators:**

3.2.1 Legal or traditional rights or customs of indigenous peoples, the management or use of their forest resources (timber-yielding and non-timber), have been formally recognised and documented in written agreements and, were this necessary, will be reflected in maps showing the areas concerned.

3.2.2 Indigenous lands have been excluded from the forest concession or property, with well defined limits, or written agreements.

3.2.3 If potential conflicts exist, there are written mechanisms to prevent them. If conflicts arise, there are written mechanisms and actions for the resolution of same, in which the strategies for negotiation of the indigenous population are recognised as well as the participation of a mediator accepted by mutual agreement within the legal framework in force. Such mechanisms are included in the Management Plan.

**CRITERION 3.3** Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.

**Indicator:**

3.3.1 The management plan identifies places of special cultural, ecological, economic or religious significance for the indigenous peoples and proposes actions for their protection, with the existence of a written agreement among the parties.

**CRITERION 3.4** Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

**Indicators:**

3.4.1 If the persons responsible for forest management use knowledge privative of the indigenous peoples, they (the indigenous peoples) are recompensed and acknowledged.

3.4.2 If the indigenous peoples participate in different phases of the management plan, they are adequately recompensed. Such compensation is agreed upon with the consent of the aforesaid peoples.

**PRINCIPLE 4: COMMUNITY RELATIONS AND WORKER'S RIGHTS**

*Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.*

**CRITERION 4.1** The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.

**Indicators:**

4.1.1 The local population has priority of access to sources of labour, as well as to possibilities of job improvement and training.

4.1.2 Whenever possible, regulated access to local communities is facilitated for the use of timber and non-timber products, using subsidised contracts whenever it so corresponds.

**CRITERION 4.2** Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.

**Indicators:**

4.2.1 Wages and other benefits (social security, pensions, lodging and meals) are equivalent (not lower) than those which are standard for the region.

4.2.2 Industrial safety standards are applied in the cutting, sawing, and other activities.

4.2.3 Bolivian social and labour legislation is complied with.

4.2.4 In-field basic and emergency medical attention is given.

**CRITERION 4.3** The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organisation (ILO).

**Indicator:**

4.3.1 Employees are granted freedom to organise. Employees or other workers are not forbidden or prevented from joining a union or association, nor from bargaining collectively with their employers, if they wish to do so.

**CRITERION 4.4** Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.

**Indicators:**

4.4.1 There exists an appropriate mechanism, according to the scale of the operation, to assess the impact of forest management upon the productive system of the community and its correspondence with the social stability of the same.

4.4.2 The populations directly affected by the forest activities have the opportunity to participate in planning the specific tasks of forest management that may affect them.

**CRITERION 4.5** Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

**Indicator:**

4.5.1 Measures are taken to prevent damage or losses that will affect the rights, goods, resources or the lives of local populations. In case of damages or negative impacts, neighbouring populations are compensated for harm to crops, animals, trees, land or other resources managed, loss of functions of the environment (such as quality of the water, access to forest services, or loss of income).

**PRINCIPLE 5: BENEFITS FROM THE FOREST**

*Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.*

**CRITERION 5.1** Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

**Indicators:**

5.1.1 The management plan is economically feasible and permits assuming not only the operating costs of a traditional utilisation, but also the costs of the management activities such as planning (census, mapping, demarcation, monitoring, etc.), the implementation of forestry prescriptions, forest protection, as well as planning, construction and maintenance of good roads.

5.1.2 The benefits perceived through good planning, orderly arrangement and technical development of forest activities constitute an adequate incentive for the producer to continue implementing a long term management plan.

5.1.3. Up to date registers of the costs of the various management operations are maintained, as well as the production obtained yearly in each area utilised.

**CRITERION 5.2** Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.

**Indicators:**

5.2.1 Management operations seek the optimum use and / or that which is most efficient per species and tree.

5.2.2 Local processing is promoted, including the utilisation of forest residues and other forest products, whenever feasible.

**CRITERION 5.3** Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.

**Indicators:**

5.3.1 Logs and processed timber are managed in a manner such as to minimise losses and degradation.

5.3.2 It is sought that payment or contract systems with the field workers (tree seekers, cutters and machine operators, etc.), include incentives and penalties which take into account not only production criteria, but also product quality, as well as reduced damages to the residual forest.

**CRITERION 5.4** Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.

**Indicator:**

5.4.1 There exist actions taken by the person responsible for the management, leading to the development of markets and sustainable utilisation of new species and products, including the use of non-timber forest products, whenever feasible.

**CRITERION 5.5** Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.

**Indicator:**

5.5.1 Forest management must show sufficient evidence of the recognition, management and when appropriate, improvement of the forest services and resources, such as hydrographic basins.

**CRITERION 5.6** The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

**Indicators:**

5.6.1 A reasonable and prudent cycle or (cycles) of felling has been established, which contributes to maintain forest sustainability and stability, and the places where yearly felling will take place have been appropriately defined.

5.6.2 The yearly permissible felling, per area or volume, has been based on conservative estimates or measurements of growth and yield to ensure that the volume of the forest which is exploited will be sustainable.

5.6.3 Applied silviculture activities are ecologically sustained, based on the best available information, either empirical or relying on the results of published research, as specific for the site as possible.

5.6.4 Only useful trees which have been previously determined and marked are felled, respecting the minimum diameters for felling, or other forestry prescriptions established in the management and operating plan.

**PRINCIPLE 6: ENVIRONMENTAL IMPACT**

*Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.*

**CRITERION 6.1** Assessment of environmental impacts shall be completed -- appropriate to the scale, intensity of forest management and the uniqueness of the affected resources -- and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.

**Indicator:**

6.1.1 In the preparation, approval and follow-up of the management plan, the applicable norms regarding assessment of environmental impact. must be observed.

**CRITERION 6.2** Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

**Indicators:**

6.2.1 The management plan proposes concrete actions to prevent the extinction of exploitable forest species, the reduction of other plant and animal species with conservation status and the degradation of soils and water mantles.

6.2.2 A minimum of 10% of reserve lands is established, with restrictions on the use of the various habitats in order to protect critical refuge, feeding of reproduction areas of endangered, rare and / or colonial nesting species, in accordance with each particular situation. In case of a lack of obviously special zones to be protected, a minimum of 10% of every forest strata is protected. The spatial distribution of such areas must consider the flow of wild life throughout the forest (biological corridors instead of islands).

6.2.3 The person responsible for management has available policies and concrete actions to prevent hunting, gathering animals or eggs for commercial and sports purposes, to be used as pets, or to supply food for the personnel of sawmills or field operations.

6.2.4 No species forbidden by national legislation or by international agreements are used.

6.2.5 The revisions of the management plan include the assessment of the state of conservation of the endangered or critical species.

**CRITERION 6.3** Ecological functions and values shall be maintained intact, enhanced, or

restored, including:

- a) Forest regeneration and succession.
- b) Genetic, species, and ecosystem diversity.
- c) Natural cycles that affect the productivity of the forest ecosystem.

**Indicators:**

6.3.1 Management maintains, increases or replaces vital ecological functions. These include:

- a) Natural regeneration and succession of forests
- b) Genetic diversity of species, diversity of the species themselves, and diversity of the ecosystems
- c) Natural cycles affecting productivity of the forest ecosystem.

6.3.2 Measures exist to prevent and reduce the impact upon key species for the feeding of frugivorous species (such as Aralias, honey creepers, **paquio** and various palm tress), and standing or fallen hollow trees that may be a refuge for various kinds of animals.

6.3.3 Silviculture and utilisation practices are not considered a risk for biodiversity of the forest (elimination of species and genetic erosion).

**CRITERION 6.4** Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

**Indicator:**

6.4.1 The samples of representative ecosystems are identified at least in maps, and are not significantly threatened by forest utilisation.

**CRITERION 6.5** Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

**Indicators:**

6.5.1 Appropriate measures are taken (for instance, cutting of vines, directed felling, etc.), to maximise the reduction of the negative effects of felling and facilitate dragging operations.

6.5.2 Appropriate measures are adopted to prevent that, as a consequence of forest operations (cutting, tree dragging, road building), waterways are obstructed or they become polluted.

6.5.3 No extraction and transportation operations take place if and when they destroy roads and dragging trails due to the saturation of water on the ground.

6.5.4 Cutting and road building operations take place under good planning and supervision, considering the respective standards.

6.5.5 Extraction contemplates a minimum disturbance of the ground and minimum damage to the residual forest, there being concrete measures for this purpose, such as:

- a) use of the winch cable at its maximum length
- b) use of appropriate machinery
- c) non-utilisation of the front shovel of the skidder, except when necessary. to maintain the safety of the operation

6.5.6 The placement, density and size of the area in each management unit are rationally determined.

6.5.7 Insofar as possible, the ruts have soft, appropriate inclines, and do not drain directly into either roads or surrounding streams.

6.5.8 There exist actions tending to rehabilitate the areas used as ruts, whenever necessary.

6.5.9 The roads are planned (primary, secondary and dragging trails) using the best available information regarding the terrain and the forest (maps, census, inventories, satellite images, etc.), in order to minimize production costs and environmental impacts.

6.5.10. There are technical specifications acceptable for the design, construction and maintenance of roads, taking into account the mitigation of negative impacts upon the environment and reduction in construction costs.

6.5.11 All the roads being used are appropriately maintained, including the drive-through tracks and drainage structures.

6.5.12 After utilization, the corresponding roads and dragging trails, are appropriately repaired, maintained or closed off, to limit illegal access of field and sawmill personnel to the forest, in order to reduce erosion damages.

**CRITERION 6.6** Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.

**Indicators:**

6.6.1 No chemical products listed as forbidden by international bodies or by the Bolivian legislation will be used.

6.6.2 The employees have been trained and apply appropriate techniques for the manipulation, storing and discarding of chemicals and containers.

6.6.3 The company has at its disposal drugs and medicines for the safe treatment of employees and cleans the site in case of an accident with the chemical products in use.

**CRITERION 6.7** Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

**Indicator:**

6.7.1 There is appropriate disposal of containers, waste, trash, litter, used lubricants, etc., originating in forest and sawmill operations.

**CRITERION 6.8** Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

**Indicators:**

6.8.1 The use of biologic control agents is strictly supervised, monitored and documented, and there is a tendency to decrease their use.

6.8.2 National laws and scientific protocols are observed.

6.8.3 No genetically modified organisms are used.

**CRITERION 6.9** The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

**Indicator:**

6.9.1 The use of exotic species to prevent adverse ecological impacts is controlled and monitored.

**PRINCIPLE 7: MANAGEMENT PLAN**

*A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The objectives of management, and the means of achieving them, shall be clearly stated.*

**CRITERION 7.1** The management plan and supporting documents shall provide:

- a) Management objectives.
- b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.
- c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.
- d) Rationale for rate of annual harvest and species selection.
- e) Provisions for monitoring of forest growth and dynamics.
- f) Environmental safeguards based on environmental assessments.
- g) Plans for the identification and protection of rare, threatened and endangered species.
- h) Maps describing the forest resource base including protected areas, planned management activities and land ownership.
- i) Description and justification of harvesting techniques and equipment to be used.

**Indicators:**

7.1.1 There exists a plan of for multiple years- management, which clearly indicates the objectives of management and which guides and describes in detail the principal activities to be undertaken in order to achieve such objectives.

7.1.2 The management plan includes estimates to calculate the future structure and composition of the forest at least until the end of the first felling cycle.

7.1.3 The management plan includes:

- Management objectives
- Inventory analysis of commercial species and factors affecting their populations
- Forestry intervention plans
- Identification of the populations affected by forest management and the policies for relating these to the companies
- Mechanisms for the resolution of conflicts and of internal assessment of the social impact of the operations
- Maps describing forest strata, the areas of utilization, conservation and buffer zones, roads, etc.
- Plan for forest protection against pests, fires, settlements, etc.
- Description of the measures for the environmental protection, including soil and basin conservation, conservation of biodiversity, protection of ecologically key trees for fauna, use of toxic materials, etc.
- Plan for the development of marketing and timber utilization

- Estimates of permissible yearly cutting by available species

7.1.4 There exist yearly operative plans, based on detailed maps, which include the volumetric goal to be extracted in pre-defined areas, planning of the utilization and of the silviculture operations and other activities such as road construction. These plans indicate where, when and how the activities will be executed.

7.1.5 There are reliable results of well designed and applied inventories, which provide a good base for the preparation of the multiple-year- management plan.

7.1.6 Detailed forest census or inventories are made providing a good basis for planning and executing yearly utilization.

7.1.7 The yearly operative plan, together with maps on an adequate scale are available to provide operative orientation on management activities, and to facilitate implementation monitoring of such activities.

7.1.8. The silviculture prescriptions established in the management plan are implemented in the field.

**CRITERION 7.2** The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

**Indicator:**

7.2.1 The management plan is revised periodically (at least every 5 years) in order to incorporate the results of monitoring the new scientific or technical information, as well as the changes in the environmental, social and ecological context.

**CRITERION 7.3** Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

**Indicators:**

7.3.1 Actions are taken to train field personnel.

7.3.2 Field guides exist and are used under direction, for the various field operations to provide support for the training of new workers.

7.3.3 There exists an adequate supervision of the field activities, in order to ensure that operative norms are being duly implemented.

**CRITERION 7.4** While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including

those listed in Criterion 7.1.

**Indicators:**

7.4.1 Field, technical and administrative personnel has sufficient information for the adequate implementation of the management plan.

7.4.2 A summary of the management plan is available.

**PRINCIPLE 8: MONITORING AND ASSESSMENT**

*Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -  
- to assess the condition of the forest, yields of forest products, chain of custody,  
management activities and their social and environmental impacts.*

**CRITERION 8.1** The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

**Indicators:**

8.1.1 There exists an appropriate monitoring system, according to the scale of management.

8.1.2 In accordance with the laws in force today, permanent measuring plots have been implemented, according to the scale and intensity of operations.

**CRITERION 8.2** Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

- a) Yield of all forest products harvested.
- b) Growth rates, regeneration and condition of the forest.
- c) Composition and observed changes in the flora and fauna.
- d) Environmental and social impacts of harvesting and other operations.
- e) Costs, productivity, and efficiency of forest management.

**Indicators:**

8.2.1 Forest structure and dynamics monitoring activities are developed, in order to obtain information regarding presence and abundance, diametrical distribution, growth, mortality and recruitment of the various species to help in the decision making process regarding management, according with the needs of selection and application of the forestry treatments.

8.2.2 Periodic registers are made of fauna species observations, indicating the health of the ecosystem.

8.2.3 The yield of forest products, including costs, are assessed, and a register is maintained.

8.2.4 The impact of forest management is systematically assessed regarding the quality of life of workers. In case populations are affected by the management plan, parameters of life quality are used as indicators to determine the level of impact (such as quality of the water, availability of forest resources). The activities of management do not damage the infrastructure services upon community lands.

**CRITERION 8.3** Documentation shall be provided by the forest manager to enable monitoring

and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."

**Indicators:**

8.3.1. There exists a system with the adequate documentation corresponding to each annual cut area which permits monitoring of the guardianship network.

8.3.2 Certified forest products are clearly identified with labels or trademarks during all the phases of processing and the physical distribution.

8.3.3 Documentation of all forestry product sources and destinations certified has to be available in the intermediate points of the collecting and/or processing and distribution physical centres.

**CRITERION 8.4** The results of monitoring shall be incorporated into the implementation and revision of the management plan.

**Indicators:**

8.4.1 Monitoring results are incorporated into the process of implementation and revision of the management plan.

**CRITERION 8.5** While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

8.5.1 A summary of the monitoring results is available.

**PRINCIPLE 9: MAINTENANCE OF NATURAL FORESTS**

*Primary forests, well-developed secondary forests and sites of major environmental, social or cultural significance shall be conserved. Such areas shall not be replaced by tree plantations or other land uses. Forest management activities shall not produce mayor changes to the forest composition. Changes to forest structure provoked by forest activities shall be reduced.*

**CRITERION 9.1** Trees planted in natural forests may supplement natural regeneration, fill gaps or contribute to the conservation of genetic resources. Such plantings shall not replace or significantly alter the natural ecosystem.

**CRITERION 9.2** The use of replanting as a technique for regenerating stands of certain natural forest types may be appropriate under certain circumstances. Guidelines on the acceptable intensity and spatial extent of tree planting will be addressed in national and regional forest stewardship standards to be approved by FSC. In the absence of such national or regional standards, guidelines developed by the certifier and approved by FSC will prevail.

**Indicators for 9.1 and 9.2**

9.1-9.2 The planting of trees or enrichment plantations in natural forests may complement the natural regeneration process. the filling of clearings can contribute to the conservation of the genetic resource. Such techniques do not replace nor significantly alter the natural ecosystem. Whenever possible, the natural regeneration of the species is preferable.

9.1-2.2 In the areas of yearly utilisation, an acceptable minimum is preserved over the minimum diameter for cutting of each exploited species, when it concerns species that do not have regular diametric distribution (inverted "J")

9.1-2.3 In the case of degraded forests due to selective felling, special considerations are given to conserve overexploited species (i.e. Swietenia macrophylla, Cedrela sap. and Amburana cearensis). In extreme cases, the cutting of such species is forbidden.

9.1-2.4 If monitoring indicates that management is causing unacceptable changes to the structure and composition of the forest, the corresponding adjustments are made.

9.1-2.5 The natural forest is not replaced by plantations or cultivation.

***Additional indicators for community management plans***

In areas of community forest utilisation, where hunting is basic for the subsistence of the indigenous people or communities, the plan contemplates measures for monitoring and minimising the impact upon the fauna populations and promoting their recuperation.

Certification Standards

The forest management and utilisation activities are compatible with the traditional productive system of the community.

There exists a distribution mechanism of the economic benefits obtained from forest activities, in a manner such that the whole community benefits.

There exists an organisational structure that ensures the application of the management plan.

There exists a mechanism to assess the impact of forest management upon the productive system of the community and its correspondence with the social stability of the same.

- 
- 1 It may be pointed out that the majority of the forests managed in Bolivia can be considered to be mature forests. Given this fact, it is understood that the good management practices indicated by the Voluntary Forest Certification Standards in Bolivia are directed to the conservation of such forests.