

Part Four

Forest certification in China --- Forest management



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Explanation

This Standard was originally started to be developed in 2001 under the commission of the Science and Technology Development Centre of the State Forestry Administration (SFA) in strict accordance with the Standardization Law of the People's Republic of China and based on a public and transparent manner with multi-stakeholder participation process. The Standard was approved by the SFA in 2007, which however was not immediately implemented due to the lack of the certification body at that time.

Amendment process was started in 2010 when the China Forest Certification Council (CFCC), which is the governing body of the China Forest Certification Scheme (CFCS), was formally established. The process was based on the revised Standard Development Rule of CFCC which was in strict accordance with newly revised PEFC ST 1001:2010 Standard Setting – Requirements, and also based on a public and transparent manner with multi-stakeholder participation process.

| The final version of the Standard was adopted by CFCC in June 20, 2011.

Appendix A of the Standard lists the relevant national laws and regulations, Appendix B lists the relevant legally binding international conventions to which China is a signatory, and Appendix C lists the relevant technology rules and guidelines. All three appendixes are informative materials.

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Introduction

The China Forest Certification Council (CFCC) claims that forest management certification is an important market-based tool to promote sustainable forest management and international trade of forest products. This Standard specifies that forest management units shall meet the requirements for the implementation of sustainable forest management certification, and also provides forest certification bodies with basis for auditing and assessing forest management certification.

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1 Scope

This Standard stipulates the indicator system that shall be followed for the sustainable forest management certification.

The Standard is applicable for the auditing and assessment of forest management performance for all forest management units by accredited independent certification bodies.

2 Terms and Definitions

The following terms and definitions are applicable to the Standard.

2.1

Forest certification

As a tool to promote sustainable forest management through market-based mechanism, forest certification includes forest management certification and chain of custody (COC) certification. Forest management certification is to verify whether a forest is managed sustainably by assessing and auditing the forest management activities of the forest management unit against the Standard. COC certification is to verify the material origin of forest products by assessing and auditing the whole chains of forest products processing and marketing organizations, from processing, manufacturing, transport, storage, sale to end-users.

2.2

Chain of custody

Process of handling of information on the origin of forest based products which allow the organization to make accurate and verifiable claims on the content of certified materials.

2.3

Forest management unit

A forest management entity with legal personality, which has forests with a certain area and clear boundaries and can carry out forest management operation according to a forest management plan and management targets.
[GB/T26423-2010, Definition 7.4]

2.4

Forest certification body

A third-party organization with certain capacities and qualifications and accredited by relevant national accreditation bodies, which assesses and audits forest management performance of forest management units or COC of forest products processing and marketing organizations according to forest management certification standard and COC certification standard.

2.5

Local community

A social group composed by residents that inhabit the forest or surrounding areas, whose interests are impacted by the forest.

2.6

Forest tenure

The ownership and the use right of forests, trees, and forest land. The owner or user of the forest, trees and forest land has the legal rights to possess, use, benefit from and dispose of them.

2.7

Stakeholder

A group or individual who has direct or indirect interests related to or impacted by forest management, e.g. government organizations, local communities, forest workers, investors, environmental protection organizations, consumers and the general public etc.

2.8

Chemicals

Chemical products such as chemical fertilizer, pesticide, germicide, herbicide and hormone etc which are used for forest management.

2.9

Environmental impact analysis

A process of analyzing the actual or potential impacts of forest management on the environment so as to identify means to reduce or avoid negative impacts and expand on positive ones.

3 Indicator System

3.1 National Laws and Regulations as well as International Conventions

3.1.1 Abiding by relevant national laws and regulations

3.1.1.1 Texts of existing relevant national laws and regulations shall be available in the forest management unit, such as the Forest Law of the People's Republic of China, Regulations for the Implementation of the Forest

Law of the People's Republic of China, as well as the Law of the People's Republic of China on Regional National Autonomy etc (see Appendix A).

3.1.1.2 The Forest management shall be in line with relevant laws and regulations of the State.

3.1.1.3 Managerial staff and workers of the forest management unit have adequate knowledge of relevant national and local laws and regulations.

3.1.1.4 Forest management units that have violated laws have taken timely corrective measures according to the laws, which are kept on file.

3.1.2 Taxes and fees paid in conformity with the law

3.1.2.1 Relevant staff of the forest management unit are well informed of the taxes and fees that shall be paid.

3.1.2.2 Taxes and fees shall be paid in a timely manner and in accordance with the Law of the People's Republic of China Concerning the Administration of Tax Collection, the Law of the People's Republic of China on Enterprise Income Tax, as well as other relevant laws and regulations concerning taxes and fees.

3.1.3 Protecting forest land according to the law and prohibiting the illegal conversion of forest land

3.1.3.1 The forest management unit has taken effective and tangible measures to protect the forest area from illegal logging, illegal settlement, deforestation and other unauthorized activities.

3.1.3.2 Activities of occupying, expropriating and converting forest land shall comply with relevant national laws and regulations upon the written approval of forestry authorities.

3.1.3.3 The conversion of the forest land shall be sure not to damage the integrity of the forest ecosystem or to result in the fragmentation of the forest.

3.1.4 Abiding by international conventions to which China is a signatory

3.1.4.1 The forest management unit shall have copies of forest management related international conventions to which China is a signatory (see Appendix B).

3.1.4.2 The forest management shall follow requirements of forest

management related international conventions to which China is a signatory.

3.2 Forest Tenure

3.2.1 Forest tenure shall be clear

3.2.1.1 The forest management unit shall have the forest tenure certificate issued by the responsible agencies such as governments above the county level or the forestry authorities authorized by the State Council.

3.2.1.2 Contractors or leasers have relevant legal certificates, e.g. land contracts and lease agreements etc.

3.2.1.3 The forest management unit has clear boundaries and marks it on a map.

3.2.2 Settling disputes over the ownership and use right of forests, trees and forest land according to laws

3.2.2.1 Disputes over the ownership and use right of the forests, trees and forest land shall be resolved according to the Dispute Settlement of Forest Trees and Forest Land Tenure.

3.2.2.2 Existing disputes and interest conflicts have not caused significant negative impacts on forest management. The forest management unit significantly impacted by disputes and conflicts shall not pass forest certification.

3.3 Local Community and Workers' Rights

3.3.1 Providing the forest area and surrounding residents with opportunities of employment, training and other social services

3.3.1.1 The forest management unit has provided opportunities of employment, training and other social services to the forest area and surrounding residents, especially minority nationalities.

3.3.1.2 The forest management unit has provided basic transportation and communication infrastructures to the forest area and surrounding residents, especially minority regions.

3.3.2 Abiding by requirements about working and safety of the workers and guaranteeing the health and safety of the workers

3.3.2.1 The health and safety of the workers shall be guaranteed in accordance with the requirements of the Labor Law of People's Republic of China, the Law on Production Safety of the People's Republic of China and other relevant laws and regulations.

3.3.2.2 The forest management unit shall provide workers with salary and other welfare, e.g. social security, pension, medical services etc according to relevant laws and regulations.

3.3.2.3 Operational safety of workers engaging in forest management shall be guaranteed, necessary uniforms and safety facilities shall be provided, and emergency medical treatment and necessary security training shall be provided.

3.3.2.4 Requirements of all ILO conventions to which China is a signatory shall be complied with.

3.3.3 Guaranteeing the legal rights and interests of the workers and encouraging their participation in the decision-making process of forest management

3.3.3.1 The legal rights and interests of the workers shall be guaranteed by means of workers congress, congress of workers representatives or the labor union.

3.3.3.2 Forest workers shall be provided with opportunities to participate in decision-making process of forest operations through various channels.

3.3.4 The forest management unit shall not encroach upon the legal rights of local residents on trees and other resources

3.3.4.1 The forest management unit shall recognize the legal right of local community to use and manage the land and resources.

3.3.4.2 The forest management unit shall take appropriate measures to prevent trees and other resources of local residents, especially minority nationalities, from being directly or indirectly damaged and their use right being impacted by forest management.

3.3.4.3 If local residents voluntarily entrust the resource management right to the forest management unit, clear agreements or contracts shall be signed by both parties.

3.3.5 Local residents shall be consulted when it is necessary to zone and

protect forest land with special cultural, ecological, economic or religious significance to them

3.3.5.1 Local residents, especially minority nationalities, shall be consulted with and consensus shall be reached when it is necessary to zone and protect forest land with special cultural, ecological, economic or religious significance to them.

3.3.5.2 Appropriate measures shall be taken to protect the zoned and protected forest land.

3.3.6 Respecting and safeguarding the traditional or authorized rights of local residents to enter into or use forest preconditioned by guaranteeing the legal rights and interests of the forest management unit

3.3.6.1 Under the condition of not impacting on the integrity of the forest ecosystem and the fulfillment of forest management targets, the traditional and authorized right of local residents, especially minority nationalities, shall be guaranteed to enter into or use forest, such as picking non wood forest products, forest recreation, passing, environmental education etc.

3.3.6.2 Regulations shall be clearly defined and informed to local residents, especially minority regions, if there are forests that can only be entered into or used in certain circumstances or at a certain time.

3.3.7 In the case that forest management results in the loss of or negative impacts on the legal right, property, resources, or livelihood of local residents, they shall be consulted with and fairly compensated

3.3.7.1 Appropriate measures shall be taken to avoid the loss of or damage to the legal right, property, resources, or livelihood of local residents, especially minority nationalities.

3.3.7.2 Local residents, especially minority nationalities, shall be consulted with and fairly compensated if the above-mentioned damages take place.

3.3.8 Traditional knowledge of local residents shall be respected and paid when used

3.3.8.1 Traditional knowledge of local residents, especially minority nationalities, shall be respected and rationally used in the forest management.

3.3.8.2 Rights of participation in forest management planning by local residents, especially minority nationalities, shall be appropriately ensured.

3.3.9 Forest management activities shall be adjusted according to the results of social impact evaluation and a consultation mechanism shall be established in cooperation with local communities, especially minority regions

3.3.9.1 Social impact of forest management shall be assessed according to its means and scale.

3.3.9.2 Results of the social impact assessment shall be considered in the forest management plan and operation plan.

3.3.9.3 A communication and consultation mechanism shall be built with relevant agencies through involvement of local communities, especially minority nationalities.

3.4 Forest Management Plan

3.4.1 Forest management plan shall be developed based on the long-term forestry plan developed by higher forestry authorities

3.4.1.1 The forest management unit has a timely, effective and scientific forest management plan.

3.4.1.2 Opinions of administrators, management units, local communities and other stakeholders are extensively solicited in the process of developing the forest management plan.

3.4.1.3 The development of a forest management plan is based on sound and correct information on the forest resources, including updated forest resources files, effective results of second-grade forest resources inventory and mapping, as well as specialized technical files. The results of scientific research shall also be referred so that the forest management plan developed is of scientific.

3.4.1.4 The contents of forest management plan shall follow the relevant requirements of forest management plan formulation, which should include:

- Natural socio-economic status, including forest resources, environmentally limiting factors, land use and ownership status, socio-economic conditions, social development and dominant demands, forest management evolution and a profile of adjacent land status etc;
- Evaluation of forest resources management;
- Forest management guidelines and targets;
- Forest function zoning, forest categories and forest management types;
- Forest breeding and silviculture, including seedling production,

- reforestation, tending and forest stand improvement;
- Forest harvesting and regeneration, including annual harvesting area, harvesting volume, harvesting intensity, timber output volume, harvesting method, logging area allocation and reforestation operation etc;
- Management of no wood resources;
- Forest health and forest protection, including forest disease and pest control, forest fire prevention, maintenance of forest land productivity, forest watershed management, and biodiversity conservation etc;
- Wildlife conservation, especially the rare, threatened and endangered species;
- Development and maintenance of infrastructures of forest management;
- Investment estimation and benefit analysis;
- Ecological and social impact assessment of forest management;
- Guaranteeing measures of the implementation of the forest management plan; and
- Necessary charts and maps related to forest management.

3.4.1.5 While respecting the confidentiality of information, forest management unit shall make publicly available the main contents of the forest management plan, including the information of the scope and scale of forest management such as main forest management measures, to all stakeholders of the local community and administrative region one level higher than the present one.

3.4.2 Forest management operation shall follow forest management plan

3.4.2.1 The forest management unit shall assign responsibilities for the implementation of the forest management plan.

3.4.2.2 The annual operation plan shall be developed based on the forest management plan.

3.4.2.3 The forest management shall contribute to research activities needed for sustainable forest management or support relevant research activities carried out by other organizations.

3.4.3 Timely revision of the forest management plan

3.4.3.1 The forest management unit shall learn the latest developments in forestry science and technology and policy information related to forest management in a timely manner.

3.4.3.2 The forest management plan shall be periodically revised (less than 10 years) according to forest resources monitoring results, latest science and technology and policy information, including latest market and economic

activities related to timber, non wood forest products and forest services, as well as the change of environmental, social and economic circumstances.

3.4.4 Necessary training and guidance shall be provided to forest workers to ensure that they are capable of operating correctly

3.4.4.1 The forest management unit establishes a system for providing forest workers with training and guidance.

3.4.4.2 Forest workers shall receive sound training in order to understand and grasp the operation requirements.

3.4.4.3 Professional technicians provide forest workers with necessary technical guidances for their field operations.

3.5 Cultivation and Utilization of Forest Resources

3.5.1 Forest operations are consistent with operational designs

3.5.1.1 The forest management unit shall formulate operational design in accordance with forest management plan and annual operational plan, and carry out operation activities according to approved operational design.

3.5.1.2 Appropriate adjustments are properly undertaken based on the precondition that the management activities are guaranteed to be more conducive to realizing management targets and safeguarding the integrity of the forest ecosystem.

3.5.1.3 Adjustments to the forest management plan shall be placed on file.

3.5.2 There shall be specific investments in forest management activities, and the investments meet the demands of forest management

3.5.2.1 The forest management unit shall take into full consideration economic viability of its management and operational costs.

3.5.2.2 Reasonable investment scale and structure shall be guaranteed for sustainable forest management.

3.5.3 Forest management unit shall conduct a diversified economy within the forest area so as to promote the development of the local economy

3.5.3.1 A diversified economy based on sustainable use of various timber and non-timber forest products, such as forest fruit, oil plants, food, beverages,

herbs and materials for chemical industry etc shall be implemented.

3.5.3.2 A management plan for main non wood forest products shall be developed, including measures for breeding, protection and use.

3.5.3.3 Traditional management systems that have created valuable ecosystems, such as coppice, on appropriate sites shall be supported when economically feasible.

3.5.4 The introduction, production and management of seeds and seedlings shall align with national laws and regulations as well as local regulations, and the quality of seeds and seedling shall be guaranteed

3.5.4.1 The introduction, production and management of forest seeds and seedlings shall align with the requirements of national laws and regulations or local regulations.

3.5.4.2 The forest management unit engaged in forest seedling production and management shall gain a Forest Seeds Production License and Forest Seeds Management License issued by the forestry authority above the county level and conduct the production and management activities according to the requirements of these licenses.

3.5.4.3 Quality inspection shall be undertaken according to the national or local standards before transferring and transplanting from the nursery, and quality inspection and quarantine certificate for forest seeds and seedlings shall be filled.

3.5.4.4 Import permits and quarantine documents shall be applied from forestry authorities prior to the introduction of forest seeds, seedlings and other propagating materials.

3.5.5 Tree species suitable to local conditions shall be selected for afforestation in line with the management targets. Indigenous species shall be prioritized, while exotic species shall be used cautiously

3.5.5.1 Tree species for afforestation shall be selected based on the management targets and the principle of proper tree species for proper sites.

3.5.5.2 Indigenous tree species shall be selected with priority, while afforestation of pure forests shall be minimized.

3.5.5.3 Introduction of exotic species when appropriate is limited to those that are not invasive, do not affect the growth of local plants, and can provide

environmental and economic benefits.

3.5.5.4 Monitoring shall be carefully made on the growth status and ecological implication after exotic tree species are used for afforestation.

3.5.5.5 No GMO trees are allowed.

3.5.6 Afforestation design and operation in forest-free areas (including land without standing forest and land suitable for afforestation) shall meet the local land conditions and management targets and shall be conducive to improving the benefits and stability of the forest

3.5.6.1 Afforestation design and operations shall be developed according to relevant national and local technical standards and rules.

3.5.6.2 Afforestation design conforms to management targets, and reasonable afforestation, tending, thinning, final felling and regeneration plans shall be developed.

3.5.6.3 Measures shall be adopted to promote the diversification of the structure of the forest stand and strengthen its stability.

3.5.6.4 Wildlife corridors shall be established based on the scale of forest management and the wildlife migrating habits.

3.5.6.5 The afforestation layout and planning is conducive to maintaining and enhancing the value and features of the natural landscape, and its ecological connectivity shall be maintained.

3.5.6.6 Promoting the conversion of abandoned land and treeless land into forest land shall be taken into consideration.

3.5.7 Forest harvesting and regeneration shall be conducted according to relevant laws and the consumption of timber and non wood forest products shall not exceed their reproductive capacity

3.5.7.1 The forest management unit shall develop an annual harvesting amount based on the principle of forest recourse consumption being less than its growth, reasonable management and sustainable use.

3.5.7.2 Forest harvesting can only be conducted with forest harvesting licence and according to its requirements.

3.5.7.3 Records shall be kept of forest harvesting volume and sites.

3.5.7.4 Forest harvesting and regeneration shall follow the requirements of Management Measures for Forest Harvesting and Regeneration as well as Codes of Forest Harvesting.

3.5.7.5 Use of timber and non wood forest products shall not exceed the allowable level for sustainable development.

3.5.8 Forest management shall be favorable to the conservation and regeneration of natural forests

3.5.8.1 Effective measures shall be adopted to promote the conservation and regeneration of natural forests.

3.5.8.2 Conversion of forests to other types of land use, including conversion of primary forests to forest plantations, shall not occur unless justified by circumstances where the conversion:

- is in compliance with national and regional policy and legislation relevant for land use and forest management and is a result of national or regional land-use planning governed by a governmental or other official authority including consultation with stakeholders;
- entails a small proportion of the forest type;
- does not have negative impacts on the following:
 - threatened forest ecosystems;
 - culturally and socially significant areas;
 - important habitats of threatened species;
 - other protected areas; and
- Contributes to long-term ecological, economic and social benefits, such as improvement of low productive secondary forests.

3.5.8.3. A certain area of forest land shall be kept to promote the gradual transfer to natural forests (including natural secondary forests) on the plantations established on the damaged natural forest or secondary natural forests according to its scale and management targets.

3.5.8.4 Plantations established within the neighboring area of natural forests for Eco-functions shall be managed to gradually transfer from the landscape and structure of a plantation to that of natural forests and to be conducive to natural forest protection.

3.5.9 Forest management shall minimize the waste and negative impact to resources

3.5.9.1 Approaches with the least environmental impacts shall be adopted in

forest management operations so as to reduce the damage to the forest resources and the environment, and minimize the risk of degradation of and negative impact to forest ecosystems.

3.5.9.2 Measures shall be taken to avoid the waste and degradation of the timber grades in the processes for forest harvesting and timber bucking.

3.5.10 Optimal use and further processing of timber and non wood forest products shall be encouraged

3.5.10.1 Measures shall be developed and implemented to promote the best use of timber and non wood forest products.

3.5.10.2 Downstream processing of timber and non wood forest products shall be encouraged to increase their added value.

3.5.11 Adequate infrastructure shall be planned, established and maintained to minimize the negative impact on the environment

3.5.11.1 Adequate infrastructures such as roads, skid tracks, bridges and drainage facilities shall be planned and established, and their effectiveness shall be maintained.

3.5.11.2 The design, establishment and maintenance of such infrastructure shall minimize the negative impact on the environment.

3.6 Biodiversity Conservation

3.6.1 Protected zones which comply within the scope and scale of forest management and have features of resources in need of protection shall be established when rare, threatened and endangered species exist as required, and correspondent protective measures shall be developed

3.6.1.1 Relevant documents are kept by the forest management unit, such as appendixes I, II and III of CITES (see Appendix B) and the List of Wild Plants under Special State Protection, the List of Wildlife under Special State Protection etc (see Appendix C).

3.6.1.2 Rare, threatened and endangered species and their habitats or distribution areas within the area shall be identified and marked on a map.

3.6.1.3 Certain protected zones and biological corridors shall be identified to serve as habitats or distribution areas for rare, threatened and endangered species in accordance with local conditions. If the protected zones and

biological corridors can not be clearly mapped, an adequate area shall be kept for each forest type. Zoning of the above-mentioned sites shall take fully into consideration wildlife migration in the forest.

3.6.1.4 Specific protective measures shall be made and implemented when carrying out forest management activities in order to maintain protected areas, protected species and their habitats.

3.6.1.5 Species which are banned by relevant national laws and regulations, local regulations and international conventions shall not be developed or utilized.

3.6.2 Unauthorized hunting, trapping and collecting practices shall be controlled

3.6.2.1 Hunting, trapping and collecting activities shall be consistent with the laws and regulations on wildlife protection. A hunting license and collecting license shall be required in accordance with these laws.

3.6.2.2 Hunting, trapping and collecting activities shall follow the national quota regulations for hunting and collecting allocations.

3.6.3 Typical, rare, sensitive and protected forest ecosystems shall be protected and their natural status shall be maintained

3.6.3.1 Typical, rare, sensitive and protected forest ecosystems shall be identified through inventory within the forest management unit.

3.6.3.2 Measures for typical, rare, sensitive and protected forest ecosystem protection shall be developed.

3.6.3.3 Protective measures shall be implemented to maintain the natural status of the typical, rare, sensitive and protected forest ecosystems.

3.6.3.4 Identification of typical, rare, sensitive and protected forest ecosystems shall take into account globally, regionally and nationally significant landscape areas with natural distribution area and landscape area of species.

3.6.4 Measures for restoration, conservation and improvement of biodiversity within the forest shall be undertaken through forest management

3.6.4.1 The following measures can be considered for the forest management unit in order to maintain and improve forest biodiversity:

- select operational methods that can reduce the negative impacts;
- forest management system is favorable to maintain and improve the structure, functions and diversity of local forest ecosystem; and
- maintain and improve the natural features of the forest.

3.6.4.2 Standing and fallen dead wood, hollow trees, old groves and special rare tree species shall be left as much as possible in quantities and distribution necessary to safeguard biodiversity, taking into account the potential effect on the health and stability of the forest and on surrounding ecosystems.

3.7 Environmental Impact

3.7.1 Forest management shall consider its impacts on the forest ecological environment

3.7.1.1 The forest management unit shall analyze the potential impact of forest management activities on the environment based on the scale and intensity of its forest management and forest resource features.

3.7.1.2 According to the results of analysis, forest operational means shall be adjusted or improved by adopting specified ways and means, so as to minimize the impact of forest management performance (including the usage of chemical fertilizers) on the environment and to avoid the degradation of and damages to forest ecosystems.

3.7.1.3 Improved forest management measures shall be recorded and monitored to ensure the effectiveness of such improvement.

3.7.2 Various protective measures shall be undertaken in forest management operations so as to maintain the natural features of forest lands, protect water resources, and prevent land degradation

3.7.2.1 Effective measures shall be taken to minimize the damage to forest lands caused by such human activities as land preparation, afforestation, tending, forest harvesting, regeneration, road construction etc so as to maintain the natural features of the soil and its long-time productivity in the forest.

3.7.2.2 Negative impacts on the quality and quantity of water resources shall be reduced, soil and water erosion shall be controlled, and severe damage to catchments within the forest shall be avoided.

3.7.2.3 Adequate buffer zones shall be established to conserve water and soil at the banks of rivers and streams or around water bodies, and these buffer

zones shall be marked in the forest map or the forest operational design.

3.7.2.4 Use of chemical fertilizer shall be minimized, and organic and biological fertilizer shall be preferred to enhance soil fertility.

3.7.2.5 Degraded forest ecosystems shall be rehabilitated by using silvicultural or other means.

3.7.3 The use of chemicals shall be strictly controlled and the environmental impacts caused shall be minimized accordingly

3.7.3.1 The forest management unit shall show the updated list of all chemicals (pesticide, herbicide, sterilization and anti-rodent prescriptions) and relevant documents including name, potent ingredient and application methods.

3.7.3.2 Pesticides listed in the WHO Type 1A and 1B and in the national laws and regulations as well as other highly toxic pesticides (see Appendix A) shall be prohibited, except where no other viable alternative is available.

3.7.3.3 Chlorinated hydrocarbons and other pesticides that remain biologically active and accumulate in the food chain shall be prohibited.

3.7.3.4 The forest management unit shall keep the procedural documents on how to use chemicals safely, follow the instructions given by the pesticide producers, and implement the use of pesticides with proper equipment and training.

3.7.3.5 The forest management unit shall develop emergency procedures for transportation, storage, use and accidental leaking of chemicals.

3.7.3.6 The forest management unit shall ensure the inorganic rubbish and non-recyclable waste to be disposed in a way that will not endanger the environment.

3.7.3.7 Proper equipment and technical training shall be provided to minimize the pollution to the environment and damage to people's health by use of chemicals.

3.7.3.8 Methods consistent with the requirements for environmental protection shall be adopted to dispose of the wastes and containers of chemicals.

3.7.3.9 The spillage of oil during forest management operations on forest land shall be strictly avoided.

3.7.4 Introduction of exotic species shall be strictly controlled and negative ecological impacts associated with invasive species shall be prevented

3.7.4.1 Exotic species can only be introduced with the precondition that they have passed strict quarantine and ecological environment assessment and are guaranteed to do no harm to the environment and biodiversity.

3.7.4.2 Records shall be kept on the use of exotic species and their ecological impacts shall be monitored.

3.7.4.3 Measures for controlling the harmful invasive species shall be developed and implemented.

3.7.5 The environmental service functions of the forest shall be maintained and improved in forest management operations

3.7.5.1 The forest management unit shall understand and identify the environmental service functions of forests.

3.7.5.2 Measures shall be adopted to maintain and improve the environmental service functions of forests.

3.7.6 Impacts of animal populations and grazing shall be minimized

3.7.6.1 The forest management unit shall adopt measures minimizing the impacts of animal populations on forest regeneration, growth and biodiversity.

3.7.6.2 Measures shall be adopted to minimize the impacts of grazing on forest regeneration, growth and biodiversity.

3.8 Forest Protection

3.8.1 Forest disease and pest control plan shall be made based on silviculture measures and biological, chemical and physical methods shall be adopted to conduct integrated disease and pest management

3.8.1.1 Disease and pest control measures shall conform to the requirements of Regulations on Forest Pest Control of the People's Republic of China.

3.8.1.2 Prediction and forecasting shall be undertaken to assess the potential influence of disease and pest in the forest and a prevention and control plan shall be developed accordingly.

3.8.1.3 Integrated pest management measures shall be employed which focus on silviculture measures and incorporate biological, chemical and physical preventions. The use of chemical pesticides in the forest shall be limited to reduce their impacts on the environment.

3.8.1.4 Effective measures shall be employed to protect the various beneficial organisms within the forest and improve the forest's own pest control capacity.

3.8.2 A sound forest fire prevention system shall be established and fire prevention measures shall be developed and implemented

3.8.2.1 A forest fire prevention system shall be established in accordance with Regulations on Forest Fire Prevention of the People's Republic of China.

3.8.2.2 Areas with different gradings for forest fire risks shall be zoned, and fire early warning mechanism shall be developed.

3.8.2.3 Measures for forest fire monitoring and control shall be developed and implemented.

3.8.2.4 Forest fire control facilities shall be constructed, forest fire control organizations shall be established, and forest fire prevention plan shall be developed. The work of forest fire control and fighting in the forest management unit shall be organized.

3.8.2.5 Statistics of forest fires shall be kept and forest fire maps and reports shall be kept on file.

3.8.2.6 Lighting of fires shall be avoided in the forest area except for living purposes.

3.8.3 Establishing and improving emergency measures for natural disasters

3.8.3.1 The forest management unit shall develop contingency plans for natural disasters according to local natural and climatic conditions.

3.8.3.2 Effective measures shall be adopted to minimize the impact on natural disasters.

3.9 Forest Monitoring and Files Management

3.9.1 Establishing forest monitoring system and monitoring forest resources at an appropriate time

3.9.1.1 Forest resource inventory shall be conducted according to the designated arrangements of higher forestry authorities. The forest management unit shall develop forest resource files mechanism.

3.9.1.2 Based on the scale and intensity of forest management activities and the local conditions, contents and indicators of forest monitoring shall be defined, proper monitoring systems and procedures shall be established, and the approaches, frequency and intensity of forest monitoring shall be clearly defined.

3.9.1.3 While respecting the confidentiality of information, a summary of monitoring results shall be periodically released to the public.

3.9.1.4 Forest monitoring results shall be reflected in developing or revising the forest management plan and operation plan.

3.9.2 Forest monitoring shall cover the resources status, forest management and its social and environmental impacts etc

3.9.2.1 Forest monitoring should include:

- Stock volume, yield and resources consumption volume of the main forest products;
- Structure, growth, regeneration and health condition of the forest;
- Varieties of wild fauna and their changing trends, especially the rare, threatened and endangered species;
- Dynamics and trends of disease, pest and forest fires;
- Environmental and social impacts of forest harvesting and other management activities;
- Costs and benefits of forest management;
- Impact of climatic factors and air pollution on forest growth;
- Human activities such as overgrazing or overstocking; and
- Implementation status of the annual operation plan.

3.9.2.2 Monitoring activities shall be made continuously or periodically in accordance with the monitoring system, and monitoring records shall be kept.

3.9.2.3 Monitoring results shall be compared, analyzed and evaluated.

3.9.3 Establishing files management system and keeping relevant records

3.9.3.1 The forest management unit shall develop files management system of forest resources.

3.9.3.2 Files management system of forest management activities shall be developed.

3.9.3.3 Timber tracing management system shall be developed to trace, record and mark the timber from harvesting, transportation, processing and marketing to ensure that the origin of forest products can be traced.

Appendix A (Informative Materials):

Relevant National Laws and Regulations

A.1 Laws

1. Standardization Law of the People's Republic of China (1988)
2. Environment Protection Law of the People's Republic of China (2005)
3. Law on Imported and Exported Fauna and Flora Quarantine of the People's Republic of China (1991)
4. Labor Law of People's Republic of China (1994)
5. Law of the People's Republic of China on Control of Guns (1996)
6. Law on Promoting the Transfer of Science and Technological Achievements of the People's Republic of China (1996)
7. Forest Law of the People's Republic of China (1998)
8. Sandification Prevention and Control Law of the People's Republic of China (2001)
9. Law of the People's Republic of China on Regional National Autonomy (2001)
10. Law of the People's Republic of China Concerning the Administration of Tax Collection (2001)
11. Worker's Union Law of the People's Republic of China (2001)
12. Environmental Impact Assessment Law of the People's Republic of China (2002)
13. Water Law of the People's Republic of China (2002)
14. Rural Land Contracting Law of the People's Republic of China (2002)
15. Safe Production Law of the People's Republic of China (2002)
16. Land Management Law of the People's Republic of China (2004)
17. Wildlife Conservation Law of the People's Republic of China (2004)
18. Seed Law of the People's Republic of China (2004)
19. Law of the People's Republic of China on Enterprise Income Tax (2007)
20. Property Right Law of the People's Republic of China (2007)
21. Animal Epidemic Prevention Law of the People's Republic of China (2007)
22. Law on Water Pollution Prevention and Control of the People's Republic of China (2008)
23. Soil and Water Conservation Law of the People's Republic of China (2010)

A.2 Regulations

1. Measures for Forest Harvest and Regeneration (1987)
2. Regulations on Forest Disease and Pest Control of the People's Republic of China (1989)

3. Regulations for the Implementation of Terrestrial Wildlife Conservation (1992)
4. Regulations on Wild Flora Conservation of the People's Republic of China (1996)
5. Regulations for the Implementation of the Law on the Imported and Exported Wild Fauna and Flora of the People's Republic of China (1996)
6. Regulations on Protecting New Plant Varieties of the People's Republic of China (1997)
7. Regulations for the Implementation of the Forest Law of the People's Republic of China (2000)
8. Regulations on Converting Cropland to Forests (2002)
9. Regulations on Forest Fire Prevention (2008)
10. Regulations on Nature Reserves of the People's Republic of China (2011)
11. Regulations for the Implementation of the Soil and Water Conservation Law of the People's Republic of China (2011)
12. Regulations for the Implementation of the Land Management Law of the People's Republic of China (2011)

A.3 Administrative Regulations and Rules

1. Measures for Nature Reserves of Forest and Wildlife Category (1985)
2. Measures for Dispute Settlement on Timber and Forest Land Tenure (1996)
3. Measures for the Implementation of the Management and Supervision of the State-owned Forest Resources and Assets (Trial Implementation) (1996)
4. Measures for Promoting the Use of Good Forest Breeds (1997)
5. Measures for the Implementation of the Regulations on Protecting New Plant Varieties of the People's Republic of China (1999)
6. Measures for the Registration of Timber and Forest Land Tenure (2001)
7. Measures for the Verification and Approval of the Occupation and Confiscation of Forest Land (2001)
8. Measures for the Package and Label of Forest Seeds (2002)
9. Measures for the Production and Management License of Forest Seeds (2002)
10. Measures for the Quality Supervision of Tree Seedling of the State Forestry Administration of China (2002)
11. Regulations on the Annual Verification System of Production and Management License of Forest Seeds (2003)
12. Regulations on the Quarantine, Approval and Supervision of Introducing Tree Seeds and Seedlings and other Propagating Materials (2003)
13. Management Measures for the Natural Forest Protection Program (2006)
14. Management Measures for Forest Seed Quality (2006)

Note: The above-mentioned administrative regulations and rules are promulgated by the State Forestry Administration or former Ministry of Forestry.

A.4 Documents of Banned or Severely Restricted Chemicals

1. List of Toxic Chemicals That China Bans or Severely Restricts to Use (First Batch) (1998)
2. List of Toxic Chemicals That China Bans or Severely Restricts to Use (Second Batch) (2005)
3. Pesticides Severely Banned by the State (Bulletin No. 199 of the Ministry of Agriculture) (2002)
4. Pesticides Severely Banned by the State (Bulletin No. 322 of the Ministry of Agriculture) (2003)
5. Pesticides Severely Banned by the State (Bulletin No. 1157 of the Ministry of Agriculture) (2009)
6. Pesticides Severely Banned by the State (Bulletin No. 1586 of the Ministry of Agriculture) (2011)

Appendix B (Informative Materials):
Relevant International Conventions
to Which China is a Signatory

1. Convention on International Trade in Endangered Species of Wild Fauna and Flora
2. Convention on Wetlands of International Importance Especially as Waterfowl Habitat
3. United Nations Framework Convention on Climate Change
4. Convention on Biological Diversity
5. United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
6. International Labor Organization conventions
7. International Convention for the Protection of New Varieties of Plants

Appendix C (Informative Materials):

Technical Codes and Guidelines

1. List of Wild Plants under Special State Protection (1988)
2. List of Wildlife under Special State Protection (First Batch) (1999)
3. List of Species and Countries Prohibited Trading Released by CITIES Secretariat (2001)
4. Outlines for Developing and Implementing Forest Management Plan (2006)
5. Guidelines for Sustainable Forest Management in China (2006)
6. GB/T 18337.3-2001, Technical Codes for the Establishment of Public Benefits Forest (2001)
7. GB/T 15163-2004, Technical Codes for Mountain (Sand) Closure (2004)
8. LY/T 1607-2003, Codes for the Design of Afforestation Operations (2003)
9. LY/T 1646-2005, Codes of Forest Harvesting (2005)
10. LY/T 1706-2007, Technical Codes for Breeding Fast-growing and High-yield Timber Forest (2007)
11. LY/T 1690-2007, Technical Codes for the Improvement of Low-yielding Forest (2007)
12. LY/T 1692-2007, Technical Codes for the Importance Evaluation of Genetically-modified Forest Plants and their Products (2007)
13. LY/T 2007-2012, Specification for Developing and Implementing Forest Management Plan (2012)
14. LY/T 2008-2012, Technical Codes for Developing simplified Forest Management Plan (2012)