

A Guide on Sustainable Overseas Silviculture by Chinese Enterprises

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A Guide on the Sustainable Overseas Silviculture

by Chinese Enterprises

1 Scope

- 1.1 The **Guide** prescribes the fundamental principles to observe in sustainable silviculture, and the basic requirements for the Chinese enterprises engaged in realizing sustainable silviculture.
- 1.2 The **Guide** applies to regulating and guiding the whole process of the overseas activities of Chinese enterprises in silviculture, to evaluating the Chinese enterprises' activities pertinent to silviculture, to guiding the Chinese enterprises in providing non-timber products as well as other services, enabling them to protect and develop the global forest resources in a rational, efficient and sustainable way.

2. Definitions

2.1 Silviculture

The comprehensive activities conducted during the entire cultivation process of tree seeds, seedlings, afforestation and forest maturity following the set cultivation goals and objective order of nature.

2.2 Chinese Enterprises

The qualified corporations engaged in silviculture and relevant activities.

2.3 High Conservation Value Forest

A high conservation value forest refers to a forest region, the conservation value of which needs maintaining or enhancing, and it is characterized by: a forest region rich in diversity of global, regional or national significance; a forest region with spectacular scenery of global, regional and national significance; a forest region possessing precious, rare, threatened or endangered ecological system or being encircled in such a system; a forest region being able to meet the basic needs of the local communities; or a forest region playing a significant role in traditional community and cultural identities.

2.4 Forest Monitoring

Tests and evaluations made continuously and regularly on the forest situation, and relevant business operations and environmental and social impacts.

2.5 Forest Fragmentation

Any process that causes the forest coverage to be dissected by non-forestland into forest fragments.

2.6 Invasive Species

The species that are simultaneously characterized by the following: 1) introduced to a non-native region due to intentional or unintentional human activities; 2) forming self-reproduction capabilities in the local natural or man-made ecological system; 3) causing obvious damages to or impacts upon the local ecosystem or geographical structures.

3. Legal Framework

3.1 The relevant conventions and agreements signed by China and the host country shall be observed.

3.1.1 The relevant clauses of the conventions and agreements pertinent to silviculture (see Appendix A) shall be observed.

3.2 The laws, statutes, departmental regulations and documents, made or issued by competent government agencies on the companies involved in foreign economic and technological cooperation, shall be observed.

3.3 The laws and regulations of the host country shall be abided by.

3.3.1 The companies concerned shall be equipped with the current texts of laws and regulations concerning the activities related to silviculture of the host country.

3.3.2 The silviculture activities shall be in conformity with the requirements of the specific laws of the host country.

3.3.3 The laws and statutes shall be made known to the managers and staff.

3.3.4 To find out the fees and taxes payable and make payments on the timely basis according to the law.

3.3.5 Logging shall be conducted according to the law. Forest destruction or any other

unauthorized activity shall be strictly prohibited.

- 3.3.6 Forestland shall be protected according to law. The high conservation value forest shall be strictly protected and no illegal transformation of forestland for other purposes shall be tolerated.

4. Afforestation

4.1 A silviculture planning shall be formulated and implemented. Goals and measures of silviculture shall be confirmed.

4.1.1 The appropriate silviculture scheme shall be formulated and implemented in accordance with the long-term planning set up by the local competent forestry department as well as the local conditions.

4.1.1.1 A timely and effective silviculture shall be formulated.

4.1.1.2 The silviculture shall be compiled on the basis of the latest checking statistics obtained by the organization itself.

4.1.1.3 The silviculture planning and its accessory documents shall include the following:

- (1) The purpose of silviculture activities, including investigation of resource structure and optimum silviculture model;
- (2) The natural and socio-economic situation, including forest, high conservation value forest in particular, limited environmental factors, the situation of land use and ownership, socio-economic conditions, social progress and predominant demands, evolution of silviculture as well as the survey of adjacent land;
- (3) The overall arrangement of forestry production;
- (4) The silviculture system and afforestation measures, including seedling production, regeneration planting, tending and selective thinning, forest evaluation and transformation, etc.
- (5) Forest logging and renewal planning, including logging area, harvest volume, logging intensity, yield volume, logging methods, logging area configuration and renewal operations, etc.
- (6) Forest and environment protection planning, including prevention and treatment of harmful forest living organisms, forest fire prevention, water and soil conservation, control of chemicals and toxicants, occupation and expropriation of forestland, etc.
- (7) Wild fauna and flora protection planning, including the rare, threatened as well as endangered species;
- (8) Diversified operations and planning and designs of forest product processing;

- (9) Operational planning and measures of silviculture, protection and utilization of non-timber forest products;
- (10) Planning of infrastructure and forest road network;
- (11) Evaluation of the benefits and risks of silviculture activities;
- (12) Measures for monitoring the forest ecosystem;
- (13) Necessary charts pertaining to silviculture;
- (14) Meeting other requirements of the host country.

4.1.1.4 An annual operation plan shall be set up in accordance with the silviculture plan.

4.1.2 The silviculture planning shall be revised on the timely basis.

4.1.2.1 The company shall learn on the timely basis the information of scientific and technological development and policies relevant to the local silviculture.

4.1.2.2 The silviculture planning shall be revised in accordance with the monitoring results of the forest resources, new scientific and technological information and policies, and the changes of environment and socioeconomic conditions.

4.1.3. The forest operations shall be in consistent with the operation designs.

4.1.3.1 The silviculture shall be conducted in accordance with the operation designs.

4.1.3.2 The operation designs can be appropriately readjusted on the prerequisite condition that the silviculture is more conducive to realizing the operational objectives and ensure the integrality of the forest ecology.

4.1.3.3 The readjusted contents of the operational designs shall be put on records.

4.1.4. The forestry employees shall receive necessary training and guidance so that they are able to perform properly as operators.

4.1.4.1 There shall be a mechanism for training and guiding the employees.

4.1.4.2 The company shall ensure that the forestry employees can be well-trained, learn and have a good command of the operational guidance.

4.1.5 The local community and the departments concerned shall be informed of the main contents of the silviculture planning.

4.2 Afforestation and relevant business operations shall be conducted to afforest, protect and develop the forest resources and exploit the diversified forest products in accordance with the

sustainable principle.

4.2.1 The silviculture shall strive for stable economic benefits, ensuring the necessary input in order to maintain the productivity of the forest ecosystem.

4.2.1.1 The sustainability of silviculture cost and management and operation cost must be taken into full consideration, and it shall be economically feasible.

4.2.1.2 The company shall ensure the rational investment scope and structure of the sustainable silviculture.

4.2.2 The company shall encourage diversified business operations in the forest region, and then it shall be able to continuously utilize timber and non-timber products, such as fruit, oil plants, foodstuff, drinks, medicinal materials and in turn, promote the local economic growth.

4.2.3 The company shall abide by the relevant laws and regulations of the host country when introducing seeds or seedlings or conducting production or transactions, and ensure the quality of the said seeds and seedlings.

4.2.3.1 The introduction, production and transactions of seeds and seedlings shall be in conformity with the requirements of the laws and regulations of the host country, such as forest law, seeds law, law on plant quarantine, etc.

4.2.3.2 The organizations must practice its production and transactions of forest seeds or seedlings in accordance with the requirements of the competent local forestry departments.

4.2.3.3 Prior to dispatch of seeds or seedlings and outplanting, the quality inspection shall be conducted in accordance with the technological standards of the host country.

4.2.3.4 The introduction of seeds, seedlings and other reproductive products shall be conducted after obtaining the approval of the competent forestry department of the host country.

4.2.4 Gear the selection of afforested tree species to the local conditions in accordance with the operational objectives. The optimum local tree species, the native ones in particular, shall be the top priority for considerations. Be cautious in using exotic tree species. The growth of the afforested trees, harmful organisms as well as the impact of afforestation upon the ecosystem shall be monitored.

4.2.4.1 The afforested tree species shall be selected in accordance with the operational objectives and the principle of optimum trees suitable for local conditions.

4.2.4.2 The native tree species shall be taken as top priority for afforestation.

4.2.4.3 The survival rate, preservation rate, harmful living organisms and impacts upon

environment of the exotic species shall be monitored.

4.2.5 The afforestation designs and operations shall be conducted on the prerequisite condition of conforming to the local conditions and operational objectives.

4.2.5.1 The afforestation designs shall be in conformity with operational objectives and shall stipulate rational plans for afforestation, forest tending operations, thinning, final cutting and renewal.

4.2.5.2 Operations shall be conducted in accordance to the strict afforestation designs and the whole procedure shall be monitored.

4.2.5.3 The following single or mixed measures of silviculture shall be taken to promote the diversity of the forest structure and strengthen the stability of forest structure:

- (1) use manifold tree species and rationally plant mixed forest;
- (2) design operations in order to avoid over-concentrated logging over a short period of time in management design;
- (3) deploy multi-age structure and periodic afforestation;
- (4) rationalize and collocate the proportion of forest species;
- (5) afforest the protection forest belt.

4.2.5.4 The silviculture should be conducive to landscaping and biological diversification.

4.2.5.5 The layout and planning of silviculture should be conducive to maintaining the value and characteristics of natural landscape.

4.2.5.6 The silviculture should be conducive to promoting the gradual transformation from the even-aged forest to uneven-aged forest and diversiform living environment.

4.2.6 The forest logging and renewal shall be conducted in accordance with the law, the consumption of timber and non-timber products shall be lower than the regeneration ability.

4.2.6.1 The annual harvest planning and harvest quota shall be established on the basis of the principles of the annual consumption of timber forest being lower than annual growth, rationalized operations and sustainable utilization. The planning and quota shall be submitted to the competent forest departments for approval.

4.2.6.2 The annual timber harvest and logging sites shall be put on records.

4.2.6.3 The forest harvest and renewal shall be in conformity with the requirements of the relevant forest operating rules of the host country.

4.2.6.3 The utilization of the non-timber forest products shall not exceed the limits of the level permitted by the sustainable development.

4.2.7 Operations shall be conducive to the conservation of the natural forest and renewal.

4.2.7.1 Efficient measures shall be taken for the restoration and conservation of natural forest.

4.2.7.2 Natural forest should not be turned to man-made forest.

4.2.8 The efficient utilization of the forest resources shall be enhanced as much as possible.

4.2.8.1 The environmentally friendly operation mode of silviculture shall be adopted.

4.2.8.2 The comprehensive utilization ratio shall be improved during timber harvest or bucking.

5. Ecological Protection

5.1 Protection of biodiversity

5.1.1 Measures shall be formulated for the purpose of protecting the precious, rare, threatened or endangered fauna and flora species as well as their habitat.

5.1.1.1 The precious, rare, threatened and endangered fauna and flora species as well as their habitat that need protection shall be ascertained within the scope of silviculture and be lined out on the map.

5.1.1.2 Certain conservation zones shall be lined out as the habitat of the precious, rare, threatened and endangered fauna and flora species according to the specific local conditions. If such an area can not be clearly lined out, sufficient area shall be reserved for each forest type. The migration of the wild fauna within the forest shall be taken into consideration for above-mentioned partition.

5.1.1.3 Certain protection measures shall be formulated accordingly within the conservation area, and employees shall be trained and educated with the relevant knowledge as well.

5.1.1.4 The habitat of the species, whose protection has been clearly prescribed by the laws and regulations of the host country, and international conventions, must be protected.

5.1.2 No inappropriate collection activities shall be allowed.

5.1.2.1 All the collection activities shall be in conformity with the statutes pertaining to the protection of wild fauna and flora of the host country.

5.1.2.2 All the collection activities shall adopt the methods of sustainable utilization of resources, minimizing the damage of the local resources.

5.1.3 To protect the typical forest ecosystem within the silviculture area and maintain its natural status.

5.1.3.1 The typical forest ecosystem shall be ascertained within the silviculture area through investigation.

5.1.3.2 Measures of protecting typical forest ecosystems shall be formulated.

5.1.3.3 To implement protection measures and maintain the natural status of typical ecosystem.

5.1.4 To take effective measures to restore, maintain and enhance biodiversity.

5.2 Environment Impacts

5.2.1 The impact of the silviculture activities upon environment.

5.2.1.1 To make environment influence evaluation on the silviculture operations on the basis of the scope, intensity and resource characteristics of silviculture.

5.2.1.2 The silviculture operating methods shall be readjusted on the basis of the evaluation results, reducing the impacts of logging, skidding, transportation, etc. upon the environment.

5.2.2 To adopt various protection measures to farthest maintain the natural properties of forestland, avoid land degradation and protect water resources.

5.2.2.1 To adopt effective measures to minimize the damage of land preparation, afforestation, logging, renewal and road construction and some other human activities upon forestland, and maintain the natural properties of forest soil as well as its long-term productivity.

5.2.2.2 To reduce the negative impact of silviculture operations upon the quality and quantity of water resources, control water erosion and prevent severe damages to forest water catchment.

5.2.2.3 It is advisable to establish sufficiently wide buffer zone along the banks of streams for water and soil conservation.

5.2.2.4 It is advisable to utilize the organic fertilizer and bio-fertilizer to enhance the fertility of the soil while reducing the use of chemical fertilizer.

5.2.3 To strictly control the use of chemical agents, reducing the environment impact due to the use of chemical agents.

5.2.3.1 No pesticides clearly prohibited by the law and statutes of the host country or relevant international conventions shall be used.

5.2.3.2 Appropriate equipment and technological training shall be provided to reduce the pollution caused by chemical agents on environment and harm to human health.

5.2.3.3 To adopt the methods, in conformity with the requirements of environmental protection, to handle the refuse and containers of chemical agents.

5.2.4 To strictly control and monitor the import and invasion of alien species and prevent their serious ecological consequences.

5.2.4.1 To ensure that the introduction of alien species is conducted through quarantine on condition that environment and biodiversity shall not be damaged.

5.2.4.2 The use of alien species shall be put on records and its ecological impacts shall be monitored.

5.2.4.3 To formulate and implement the measures against the invasion of harmful alien species.

5.2.5 To safeguard forest ecosystem services.

5.2.5.1 To find out and ascertain the forest ecosystem services with the silviculture area, such as tourism, education, scientific research, fishery and husbandry resources, water conservation, etc.

5.2.5.2 To adopt measures to safeguard the relevant values and services of forest, high conservation value forest in particular.

5.3 Forest Conservation

5.3.1 To formulate the plan for preventing and treating harmful forest living organisms, adopt, on the basis of afforestation measures, biological, chemical and physic measures, which are environmentally friendly.

5.3.1.1 The treatment of the harmful forest living organisms shall be in conformity with the requirements of the law and statutes of the host country.

5.3.1.2 Conditions permitting, forecasting of harmful living organisms shall be conducted, evaluating the potential impact of harmful forest impact and formulating prevention and

treatment plans accordingly.

5.3.1.3 To adopt a series comprehensive measures which mainly contain afforestation measures and combines biological, chemical and physical prevention and treatment. The use of chemical pesticides shall be prohibited in the forest, avoid or reduce the impact of chemical pesticides upon environment.

5.3.1.4 To adopt effective measures to protect various beneficial living organisms in the forest and enhance the health level of forest.

5.3.2. To establish sound forest fire prevention system, formulate and implement fire prevention measures.

5.3.2.1 To establish forest fire prevention system in accordance with the law and statutes of the host country.

5.3.2.2 To line out forest fire risk areas within silviculture regions.

5.3.2.3 To formulate and implement forest fire monitoring and prevention measures.

5.3.2.4 To build forest fire prevention facilities, establish fire prevention organization responsible for the forest fire prevention and fire fighting.

5.3.2.5 To conduct forest fire statistics and establish fire records.

5.4. Forest monitoring

5.4.1 To establish appropriate forest monitoring system and forest resource records, continuously or regularly monitor forest resources.

5.4.1.1 To conduct forest resource investigation and establish the system of forest resource records.

5.4.1.2 To establish appropriate monitoring system and procedure and ascertain the mode, frequency and intensity of forest monitoring on the basis of the company's own silviculture scope and intensity as well as the local conditions.

5.4.1.3 To continuously and regularly conduct various monitoring activities in accordance with the monitoring system.

5.4.1.4 To compare and evaluate the monitored results.

5.4.1.5 The monitored results shall be reflected in the formulating or revising silviculture scheme and operating plan.

5.4.2 Forest monitoring shall include the status quo of the resources, silviculture as well as its

social and environmental impact monitoring, etc.

5.4.2.1 Forest monitoring shall include the following:

- (1) the storage, yield and resource consumption;
- (2) the forest structure, growth, renewal and health situation;
- (3) the varieties of fauna and flora and their changing trend;
- (4) the impact of logging and other business operations upon the society and environment;
- (5) the cost and benefit of silviculture;
- (6) The implementation of annual operating planning.

6 Community Development

6.1 Try to provide employment, training and other social service opportunities for the residents in the forest area and neighboring communities.

6.2 Try to safeguard the legal rights and interests of the employees, encourage the community residents to participate in the decision-making of silviculture activities.

6.3 No infringement of the legal rights of forest and other resources enjoyed by the local residents shall be tolerated.

6.3.1 To adopt appropriate measures to prevent silviculture activity from directly or indirectly threatening or impairing the resources or the right of use of the original settlers.

6.3.2 When the local settlers voluntarily entrust their rights of resource management to a Chinese enterprise, a contract shall be signed by both sides.

6.4 To establish a consultative mechanism with the local community. Take the initiative to consult with the original settlers, line out and protect the forestland which is characterized by specific cultural, ecological, economical or religious significance to the local settlers, especially in the dwelling place of multiethnic groups.

6.5 To make the forest monitoring results, when necessary, known to the public on the prerequisite of information confidentiality.

Appendix A

(An Informative Appendix)

Relevant International Conventions, Agreements and Declarations

- A.1 Convention on Biological Diversity
- A.2 Vienna Convention for the Protection of the Ozone Layer
- A.3 Convention of Climate Change and Biodiversity
- A.4 United Nations Framework Convention on Climate Change
- A.5 International Convention for the Protection of New Varieties of Plants
- A.6 Convention on the Conservation of Migratory Species of Wild Animals
- A.7 Convention of the International Trade in Endangered Species of Wild Fauna and Flora
- A.8 Convention on Wetlands of International Importance Especially as Waterfowl Habitat
- A.9 Convention for the Protection of Birds
- A.10 Agreement Concerning the Cooperation on Plant Quarantine and Infestation and Diseases Prevention
- A. 11 Agreement Concerning the Conservation of Migratory Birds and Their Habitat
- A. 12 International Tropical Timber Agreement
- A. 13 The Rio Declaration on Environment and Development

Appendix B

(A Normative Appendix)

Explanation of the Terminology Used in the *Guide*

In order to distinguish the clauses of the *Guide* during its implementation, the different degrees of strictness of the phrases are explained as the following:

B.1 shows extreme strictness, which must be executed without any alternative:

Positive phrase: “must”; negative phrase: “strictly prohibit”.

B.2.shows some strictness, which shall be executed under normal circumstances:

Positive phrase: “shall”; negative phrase: “shall not” or “be not allowed”.

B.3 allows a little freedom of choice, which shall be executed first if condition permits:

Positive phrase: “should” or “may”; negative phrase: “should not”