

Certified by:



SmartWood Headquarters
65 Millet St. Suite 201
Richmond, VT 05477 USA
Tel: 802-434-5491
Fax: 802-434-3116
www.smartwood.org
Contact person: Jon Jickling
jjickling@ra.org

Audit Managed by:
Asia-Pacific Regional Office
Jl. Ciung Wanara no. 1x, Lingkungan
Kertasari, Kelurahan Panjer, Denpasar
Selatan 80225
Bali, Indonesia
Tel: +62-361-224-356
Fax: +62-361-235-875
Contact person: Christian Sloth
Email: csloth@ra.org



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FSC-ACC-004

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FM-02 June 2007



SmartWood

Practical conservation through certified forestry

Forest Management **Certification** **Re-Assessment** Report for:

Sino-Forest Corporation, Jiayao
Forestry Development Co. Ltd.
(JFDC)
in
Gaoyao City, Guangdong Province
People's Republic of China

Certificate code:	SW-FM/CoC-001146
Auditors:	Yanru Zeng, Jianmin Xiao & Yanje Hu
Audit Dates:	July 28 – Aug. 1, 2008
Report Finalized:	3 November 2008
Operation Contact:	Run-Peng Wei Miranda Lin
Address:	3815-29, 38/F., Sun Hung Kai Center, 30 Harbour Rd., Wanchai, Hong Kong

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INTRODUCTION

This report presents the findings of an independent certification assessment conducted by a team of specialists representing the SmartWood Program of the Rainforest Alliance. The purpose of the assessment was to evaluate the ecological, economic and social performance of Jiayao Forestry Development Co. Ltd. under Sino Forest Corporation in forest management as defined by the Forest Stewardship Council.

This report contains four main sections of information and findings and several appendixes. The whole report plus some appendixes will become public information about the forest management operation that may be distributed by SmartWood or the Forest Stewardship Council (FSC) to interested parties. The remainder of the appendixes are confidential, to be reviewed only by authorized SmartWood and FSC staff and reviewers bound by confidentiality agreements.

The purpose of the SmartWood program is to recognize conscientious land stewardship through independent evaluation and certification of forestry practices. Forestry operations that attain SmartWood certification may use the SmartWood and FSC labels for public marketing and advertising.

1. SCOPE OF THE CERTIFICATE

1.1 Scope of the certificate

This is a main assessment of the 2nd round of FM assessment for Jiayao Forestry Development Company (JFDC), hereafter referred to as Forest Management Enterprise (FME). JFDC is owned by Sino-Forest Corporation (SFC), which manages forests and wood processing facilities in China via two separate entities: Sino-Panel (Asia) Inc. and Sino-Forest Investment Co. Ltd. Sino-Forest Investment Co. Ltd. has more than 10 subsidiaries. JFDC is one of these companies but is the only company included in the scope of this certification assessment. Therefore only *Eucalyptus* plantation areas managed by JFDC in Guangdong Province are included under the scope of this certification assessment. The current re-assessment includes an expansion of the area of the certified area. The previous area of certified forest was 5,237 ha. The expansion has resulted in the scope of the certificate now covering land distributed in 9 towns of Gaoyao and 3 towns of Yunfu, with a total area of 9,154 hectares (see details below).

SFC's other subsidiary, Jiayao Wood Products Development Co., Ltd. (JWDC), got a CoC certificate this July for their fiberboard factory. In the past five years JFDC has been certified to supply *Eucalyptus* logs, it has not sold the logs as a certified due to lack of demand.

There are 3 sub-companies under Sino Forest Corporation that are currently CoC certified, a first of which is located in Suzhou of Jiangsu Province and producing flooring using *Eucalyptus* log, a second is located in Muling of Heilongjiang Province, which doesn't use *Eucalyptus* log, and a third is a processing sub-company located in Gaoyao. It is not economical to transport certified log from Gaoyao to Suzhou. It was mentioned that certified logs from JFDC will possibly be sold to the processing sub-company (JWDC) located in Gaoyao, which is under Sino-Panel (Asia) Inc. for the production of value-added *Eucalyptus* veneer sheet, etc.

The FME's first certificate will expire on January 14, 2009. In the past five years many other companies and individuals have acquired land for afforestation in Gaoyao City (administratively belongs to Zhaoqing City) and the surrounding areas, Guangdong Province. So far there is no more land available further for plantation establishment. Therefore JFDC decided to have all its plantations certified by SmartWood Program this time, covering a total area of 9153.7 ha distributed in 9 towns of Gaoyao City and 3 towns of Yunfu City.

1.2 Exclusion of areas from the scope of certificate

X	Applicability of FSC partial certification and excision policy		
<input checked="" type="checkbox"/>	All forest land owned or managed by the FME is included in the scope of this evaluation.		
<input type="checkbox"/>	FME owns and/or has management involvement in other forest land/properties (forest management units) not being evaluated. Provide description of other forests below:		
<input type="checkbox"/>	Is any portion of the forest management unit (s) under evaluation for certification being excluded? If yes, complete all sections below.		
Comments / Explanation for exclusion:			
Control measures			
Other Forest area		Location	Size (ha)

2. ASSESSMENT PROCESS

2.1 Certification Standard Used

The assessment was conducted against Rainforest Alliance/SmartWood Interim Standard for Assessing Forest Management in China, which is based upon the Rainforest Alliance/SmartWood Generic standards approved by the FSC and has included indicators which are available from China national standard for forest management certification. Therefore, the standard used is a combination of FSC P&C and China national standard and applicable to China's national conditions.

2.2 Assessment team and qualifications

Yanru Zeng, Prof. & Ph.D., Team leader, Community & Environment Aspects

Dr. Zeng is a professor of Silviculture, School of Forestry & Biotechnology and Director, Research Center for Women and Natural Resources Management, Zhejiang Forestry University, China. She has a PhD in Genetics & Breeding of Forest Trees, MSc in Forestry & Bachelor's degree in Non-timber Forest Products. Now she is responsible for work of the Discipline of Silviculture and Specialty of Forestry at Zhejiang Forestry Univ. of China. Dr. Zeng has been trained in forest management certification by WWF China, SGS-CSTC, State Forestry Administration of China, and the Chinese Academy of Forestry. She has participated in SmartWood practical and course-based FSC auditor training and has been a team member on FSC/SmartWood audits of Changhua Forest Farm, Sino-Forest, and APP China and has experienced more than 10 pre-assessments, main assessments, annual audits and assessment report review.

Jianmin Xiao, Ph.D., FM/COC Auditor, Forest Specialist, Rainforest Alliance/ SmartWood

Dr. Xiao has 14-year experience in silviculture and forest resource management and 3-year experience in Forest Stewardship Council (FSC) forest management and chain of custody certification. Xiao has a PhD in silviculture. He has participated in forest management and chain of custody certification training courses sponsored by SmartWood, WWF China, SGS-CSTC, China State Forestry Administration and the Chinese Academy of Forestry. As an auditor, Xiao has experience to carry out FM pre-assessment to Muling Forestry Bureau in Northeast China.

Yanjie Hu, Associate Professor & Ph. D., Social scientist

Dr. Hu is now working at the Research Institute of Forestry Policy and Information, Chinese Academy of Forestry. She majored in community forestry when she was a Ph. D candidate. She has experience in sustainable forest management, social impact assessment, forest products market and forest certification.

2.4 Assessment schedule (including pre-assessment and stakeholder consultation)

Date	Location /main sites	Main activities
July 27, 2008	Zhaoqing City, Guangdong Province	<ul style="list-style-type: none">• Travel• Team meeting
July 28, 2008	Headquarters of JFDC	<ul style="list-style-type: none">• Opening meeting• Document review & assessment against FSC P&C• Team meeting
July 29, 2008	<ul style="list-style-type: none">• Headquarters of JFDC	<ul style="list-style-type: none">• Document review & assessment

	<ul style="list-style-type: none"> • Liu Village of Huilong Township, Gaoyao City • Liyuwei Reservoir of Huilong Township 	<ul style="list-style-type: none"> • against FSC P&C • Sino-Forest's R&D Centre, Tissue Culture Lab • Nursery & a trial of 90 <i>Eucalyptus</i> clones • The forest for ecologically public benefit surrounding the reservoir & a water table monitoring spot set under pine plantation used as a control • Team meeting
July 30, 2008	<ul style="list-style-type: none"> • Kuanjiao Village of Huilong Township • Chenghu Village of Huilong Township • He Village of Liantang Township, Gaoyao City • Yan Village of Huodao Township, Gaoyao City • Wuyoudong of Huodao Township 	<ul style="list-style-type: none"> • Compartment No. 7 (14.16 ha) & 6 (4.7 ha) – plantation established with plantlets propagated through cutting and by coppicing • Group interview with local farmers • Compartment No. 24 (3.11 ha) – plantation established by coppicing with tombs in it. Also the pine (<i>Pinus massoniana</i>) plantation nearby could be seen, which is a type of forestland before <i>Eucalyptus</i> plantation is established. • Compartment No. 40 & 42 (18.4 ha) – ecologically sensitive area (steep slope, 13.32 ha) • Compartment No. 36 (9.37 ha) – newly established plantation and weeding is being done. Water table monitoring spot. And the repaired road on the harvesting site. • Group interview at Huodao Forest Ranger Station. • Compartment No. 27 (15.04 ha) – a plantation established with seedlings in 1998 and re-established by coppicing and a buffer zone at the foot of a steep slope
July 31, 2008	<ul style="list-style-type: none"> • Yangmei Reservoir of Baizhu Township • Yangmei Reservoir and Power Station in Gaoyao • Beifeng Village of Baizhu Township • Baizhu Forest Ranging Station • Yaogu Forestry Station of Yuncheng District, Yunfu City 	<ul style="list-style-type: none"> • Compartment No. 16 (3.4 ha) – ecologically sensitive area • Group interview • Group interview with local farmers • Group interview with contractors & plantation rangers • Group interview with governmental officials and local farmers

	<ul style="list-style-type: none"> • Shanhebai Village of Yaogu Township, Yunfu City 	<ul style="list-style-type: none"> • Compartment No. 17 (22.10 ha) – water table monitoring spot • Team meeting
Aug. 1, 2008	Zhaoqing City	<ul style="list-style-type: none"> • Natural forest in the Dinghu Mountain, a nature reserve • Team meeting • Closing meeting
Aug. 2, 2008		<ul style="list-style-type: none"> • Travel
Total number of person days used for the audit: 15 = number of auditors participating 3 times total number of days spent for the audit 5		

2.5 Evaluation strategy

Based on an understanding of FME's development in the past five years, internal organizational structure, the plantation to be assessed, questions interesting to auditors and some other background information about the FME, relevant document review, and assessment against FSC P&C in office, auditors determined what to see and whom to interview for the following on-site assessment. See 2.4 for the sites visited. During the assessment, the people interviewed include:

- FME's staff;
- Governmental officials;
- plantation rangers;
- Local farmers; and
- contractors

Also see Appendix VII for reference. Each day after the auditors finished their office or field work, they had a meeting to discuss findings, opinions, FME's strengths and weaknesses, potential CARs and OBS, etc. and worked out preliminary feedback to be used at the closing meeting.

List of management aspects reviewed by assessment team:

Type of site	Sites visited	Type of site	Sites visited
Road construction	Yan Village	Illegal settlement	
Soil drainage		Bridges/stream crossing	
Workshop		Chemical storage	Nursery
Tree nursery	Headquarters of JFDC & Liu Village	Wetland	
Planned Harvest site		Steep slope/erosion	He Village & Wuyoudong
Ongoing Harvest site		Riparian zone	Yangmei Reservoir, Shanhebai Village & Yan Village
Completed logging		Planting	
Soil scarification		Direct seeding	
Planting site	Yan Village	Weed control	Yan Village
Felling by harvester		Natural regeneration	Kuanjiao Village, Wuyoudong & Yan Village
Felling by forest worker		Endangered species	
Skidding/Forwarding		Wildlife management	
Clearfelling		Nature Reserve	Zhaoqing City

Shelterwood management		Key Biotope	
Selective felling		Special management area	Liyuwei Reservoir
Sanitation cutting		Historical site	He Village
Pre-commercial thinning		Recreational site	
Commercial thinning		Buffer zone	Wuyoudong
Logging camp		Local community	Chenghu Village, Yan Village, Yangmei Reservoir and Power Station, Beifeng Village & Baizhu Forest Ranging Station

2.6 Stakeholder consultation process

The purpose of the stakeholder consultation strategy for this assessment was threefold:

- 1) To ensure that the public is aware of and informed about the assessment process and its objectives;
- 2) To assist the field assessment team in identifying potential issues; and,
- 3) To provide diverse opportunities for the public to discuss and act upon the findings of the assessment.

This process is not just stakeholder notification, but wherever possible, detailed and meaningful stakeholder interaction. The process of stakeholder interaction does not stop after the field visits, or for that matter, after even a certification decision is made. SmartWood welcomes, at any time, comments on certified operations and such comments often provide a basis for field assessment. In the case of forest management operations prior to the actual assessment process, a public consultation stakeholder document was developed and distributed by email, FAX and mail. Through input from local communities, local forestry bureau, forestry stations, contractors, operation and assessment team members who contributed to the development of the stakeholder list, an initial list of stakeholders was developed and public announcements were distributed to them. This list also provided a basis for the assessment team to select people for interviews (in person or by telephone or through email). Public meetings were also held and written surveys were distributed to gather stakeholder input.

Stakeholder Type (NGO, government bodies, local inhabitant, contractor etc.)	Stakeholders Notified (#)	Stakeholders consulted directly or provided input (#)
NGOs	0	0
Local Community members	16	16
Govt agency/official	5	5
FME staff (including plantation rangers)	13	13
Contractor	4	4

3. ASSESSMENT FINDINGS AND OBSERVATIONS

3.1 Stakeholder comments received

The stakeholder consultation activities were organized to give participants the opportunity to provide comments according to general categories of interest based upon the assessment criteria. The table below summarizes the issues identified by the assessment team with a brief discussion of each based upon specific interview and/or public meeting comments.

FSC Principle	Stakeholder comment	SmartWood response
P1: FSC Commitment and Legal Compliance	No.	No.
P2: Tenure & Use Rights & Responsibilities	No.	No.
P3 – Indigenous Peoples’ Rights	No.	No.
P4: Community Relations & Workers’ Rights	JFDC should pay extra attention to forest fire prevention.	No.
P5: Benefits from the Forest	<ul style="list-style-type: none"> • It is wished that FME would invest more in plantation establishment because it will benefit both local farmers and FME. • FME is popular with local farmers and good economic benefit has been obtained from <i>Eucalyptus</i> plantation • It was suggested that FME build road, protect plantation from fires, and pay rental in time. 	<ul style="list-style-type: none"> • Suggestions and opinions are reasonable. • Comments have shown that local people concern FME’s development in terms of their benefit.
P6: Environmental Impact	No.	No.
P7: Management Plan	No.	No.
P8: Monitoring & Assessment	No.	No.
P9: Maintenance of High Conservation Value Forest	No.	No.
P10 - Plantations	It was put forward that the plantation established by coppicing doesn’t grow so well and it is therefore wished that re-forestation could be conducted.	Comments have shown that local people pay attention to tree growth.

3.2 Main strengths and weaknesses

Principle	Strengths	Weaknesses
P1: FSC Commitment and Legal Compliance	<ul style="list-style-type: none"> FME has already had in hand a complete set of both national and international laws, agreements, conventions, regulations, <i>etc.</i>, especially the Chinese version of international laws and conventions. FME has paid fees and taxes in time. FME could identify and seek for resolutions for some of conflicts between FSC P&C and national laws and regulations. 	<p>There is one conflict between FSC P&C and national laws and regulations that FME has not identified. Gaoyao Forestry Bureau controls harvesting quota at a general level, which has been approved by provincial forestry department. FME's harvesting quota is included in the city's quota, which won't exceed the quota permitted generally. But the FME's annual harvesting volume is likely to exceed annual growth rate, which is not allowed by FSC. This has not been identified by the FME and FME has not sought resolutions with local forestry bureau.</p>
P2: Tenure & Use Rights & Responsibilities	<ul style="list-style-type: none"> FME holds clearly stated contracts with local farmers and communities for the plantation land managed. FME has set up a mechanism for complaints, their treatment and compensation. 	<p>No.</p>
P3 – Indigenous Peoples' Rights	<p>NA</p>	<p>NA</p>
P4: Community Relations & Workers' Rights	<ul style="list-style-type: none"> FME has established a good relationship with local communities. FME has set up its own plantation ranging stations, has its own full-time plantation rangers and rangers act as a bridge between FME and local communities, which is good for mutual communication. 	<ul style="list-style-type: none"> FME has not conducted an evaluation of potential risks for FM operations and worked out corresponding measures to deal with them. FME has not set up a trade union for its staff.
P5: Benefits from the Forest	<ul style="list-style-type: none"> FME has set a budget for EIA. SIA has been incorporated into routine work although the budget for it is not listed separately and not much has been spent on it. <i>Eucalyptus</i> log is locally processed and a high rate of utilization has been sought by the FME. 	<ul style="list-style-type: none"> Growth volume and harvesting volume in the forest management plan should be calculated on a scientifically sound basis. The harvesting quota and actual harvesting volume on the plantation previously funded by World Bank should be clearly listed and listed separately from that on non-WB-funded plantations.
P6: Environmental Impact	<ul style="list-style-type: none"> FME has set a policy to co-manage a certain area of forest for ecological public benefit. 	<ul style="list-style-type: none"> FME has no EIA report before each main FM operation starts. Guidance for use of chemicals is posted at the nursery, in which

	<ul style="list-style-type: none"> FME has listed ecologically sensitive areas and special habitats, which have been marked on maps or on site, and taken special technical measures in FM operations. FME is strict with distribution of fertilizers and withdrawal of packaging bags. 	some of WHO banned chemicals are included although they have not been used in recent years.
P7: Management Plan	FME revises its FM plan on a regular basis.	There is no sufficient evidence to show that workers have been trained.
P8: Monitoring & Assessment	FME has done monitoring in tree growth, EI, water table, public relations, etc.	<ul style="list-style-type: none"> FME does monitoring of different items from year to year with no systematic study and data collection of EIA & SIA on specific FM operations, which results in no consecutiveness and comparability of monitoring results. FME has no clear forest gate so far since the FME has not sold certified log. It is said that in the following years, the FME is likely to sell certified log on the harvesting site to clients from outside Gaoyao or to the processing sub-company under Sino-Panel (Asia) Inc. Therefore, the FME has not worked out corresponding control and management procedures and measures.
P9: Maintenance of High Conservation Value Forest	No HCV or HCVF found.	No.
P10: Plantations	No non-compliances.	No.
Chain of custody		See P8 of the same tale.
Group Certification Requirements	NA	NA

3.3 Identified non-conformances and corrective actions

A non-conformance is a discrepancy or gap identified during the assessment between some aspect of the FME's management system and one or more of the requirements of the forest stewardship standard. Depending on the severity of the non-conformance the assessment team differentiates between major and minor non conformances.

- Major non-conformance** results where there is a fundamental failure to achieve the objective of the relevant FSC criterion. A number of minor non-conformances against one

requirement may be considered to have a cumulative effect, and therefore be considered a major nonconformance.

- **Minor non-conformance** is a temporary, unusual or non-systematic non-conformance, for which the effects are limited.

Major non conformances must be corrected **before** the certificate can be issued. While minor non-conformances do not prohibit issuing the certificate, they must be addressed within the given timeframe to maintain the certificate.

Each non-conformance is addressed by the audit team by issuing a corrective action request (CAR) CARs are requirements that candidate operations must agree to, and which must be addressed, within the given timeframe of a maximum of one year period.

CAR 01/08		Reference Standard & Criteria: 1.4
Nonconformance		Gaoyao Forestry Bureau controls harvesting quota at a general level, which has been approved by provincial forestry department. FME's harvesting quota is included in the city's quota, which won't exceed the quota permitted generally. But the FME's annual harvesting volume is likely to exceed annual growth rate, which is not allowed by FSC.
Major	Minor X	
Corrective Action Request: The FME shall seek resolutions with local forestry bureau to ensure that its annual harvesting quota will not exceed annual growth before dry season starts when harvesting is done.		
Timeline for conformance:		Prior to the next annual audit.
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if app.):		

CAR 02/08		Reference Standard & Criteria: 4.2
Nonconformance		FME has not conducted an evaluation of potential risks for FM operations and worked out corresponding measures to deal with them.
Major	Minor X	
Corrective Action Request: FME shall conduct an evaluation of potential risks for all FM operations and work out corresponding measures to deal with them. When relevant documents are worked out, they should be distributed to the FME's staff and contractors and well known to relevant workers.		
Timeline for conformance:		Prior to the next annual audit
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if applicable):		

CAR 03/08		Reference Standard & Criteria: 5.6
Nonconformance		Growth volume and harvesting volume is not calculated on a scientifically sound basis.
Major	Minor X	
Corrective Action Request: The company shall establish and implement a system for calculating growth as well as		

estimating annual allowable cut in a scientifically sound way. From this year onwards, the harvesting quota and actual harvesting volume on the plantation previously funded by World Bank shall be clearly listed and listed separately from that on non-WB-funded plantations.	
Timeline for conformance:	Prior to the next annual audit.
Evidence to close CAR:	Pending
CAR Status:	OPEN
Follow-up Actions (if applicable):	

CAR 04/08	Reference Standard & Criteria: 6.1	
Nonconformance	FME has no EIA report before site disturbing activities are carried out.	
Major	Minor X	
Corrective Action Request: FME shall develop and implement a procedure and tools for carrying out EIA's before any site disturbing activity is carried out.		
Timeline for conformance:	Prior the next annual audit.	
Evidence to close CAR:	Pending	
CAR Status:	OPEN	
Follow-up Actions (if applicable):		

CAR 05/08	Reference Standard & Criteria: 8.2	
Nonconformance	FME does monitoring of different items from year to year with no systematic study and data collection of EIA & SIA on specific FM operations, which results in lack of consistency and comparability of monitoring results.	
Major	Minor X	
Corrective Action Request: FME shall work out a list of items to be assessed in EIA and SIA and corresponding indicators to assess and monitor, including those regarding fauna and flora.		
Timeline for conformance:	Prior to the next annual audit.	
Evidence to close CAR:	Pending	
CAR Status:	OPEN	
Follow-up Actions (if applicable):		

3.4 Observations

Observations are very minor problems or the early stages of a problem which does not of itself constitute a nonconformance, but which the auditor considers may lead to a future nonconformance if not addressed by the client. An observation may be a warning signal on a particular issue that, if not addressed, could turn into a CAR in the future (or a pre-condition or condition during a 5 year re-assessment).

OBS 01/08	Reference Standard & Requirement: 2.1
<p>On June 8, 2008, Chinese State Council issued “An Opinion on Advancing Forest Tenure Reform in Collectively-owned Forest Areas”. That means that forestland could be allocated to farmer households for long-term (70 yrs.) management. In Zhaoqing, this reform has not been implemented. Most of forestland there is collectively owned and JFDC either rents forestland from farmers or implements share-based allocation of harvested logs (JFDC accounts for 70%). It is unknown if ownership of the forestland there will change or not although there is no conflict between JFDC and local communities now. In the past five years, JFDC has returned the land in question to farmers.</p>	
<p>Observation: If the forestland ownership is allocated to each household, JFDC should pay attention to farmers’ willingness in terms of FME’s use of forestland.</p>	
OBS 02/08	Reference Standard & Requirement: 4.3
<p>JFDC has not set up its own trade union so far. It is told that staff’s opinions are reported to overhead managers through its Party branch. A Party branch is a Party organization and there are some other people who are not Party members.</p>	
<p>Observation: It is said that JFDC will have its own trade union at the end of this year. If yes, FME should work out a procedure or set up a channel for staff to express their opinions and for interaction between staff and FME.</p>	
OBS 03/08	Reference Standard & Requirement: 6.6
<p>Guidance for use of chemicals is posted at the nursery, in which some of WHO banned chemicals are included although they have not been used in recent years.</p>	
<p>Observation: JFDC should not only update documents in time but also impart and implement in time its decisions at the grass-root level.</p>	
OBS 04/08	Reference Standard & Requirement: 7.3
<p>There is no sufficient evidence to show that workers employed by the FME have been trained.</p>	
<p>Observation: FME should not only keep records at the headquarters for training of its staff but also keep records for training of workers who do field work either at the headquarters or at plantation ranging stations.</p>	
OBS 05/08	Reference Standard & Requirement: 8.3
<p>FME has no clear forest gate so far since the FME has not sold certified log. It is said that in the following years, the FME is likely to sell certified log on the harvesting site to clients from outside Gaoyao or to the processing sub-company under Sino-Panel (Asia) Inc. Therefore, the FME has not worked out corresponding control and management procedures and measures.</p>	
<p>Observation: FME should clearly set up a forest gate for different clients and work out corresponding control and management procedures and measures.</p>	

3.5 Certification Recommendation

Based on a thorough review of FME performance in the field, consultation with stakeholders, analysis of management documentation or other audit evidence the SmartWood assessment team recommends the following:

Certification requirements met, certificate should be issued	<input checked="" type="checkbox"/>
Certification requirements not met, major CARs must be met prior to certificate issuance.	<input type="checkbox"/>
FME has demonstrated that their described system of management is being implemented consistently over the whole forest areas covered by the scope of the evaluation	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comments:	
FME's management system, if implemented as described, is capable of ensuring that all the requirements of the certification standards are met across the scope of the certificate	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comments:	
Issues identified as controversial or hard to evaluate.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Comments:	
Certificate type recommended:	<input checked="" type="checkbox"/> Forest management and Chain of custody <input type="checkbox"/> Forest management only (no CoC)

In order to maintain certification, the FME will be audited annually on-site and required to remain in conformance with the FSC principles and criteria as further defined by regional guidelines developed by SmartWood or the FSC. The FME will also be required to fulfill the corrective actions as described below. Experts from SmartWood will review continued forest management performance and conformance with the corrective action requests described in this report, annually during scheduled and/or random audits

4. CLIENT SPECIFIC BACKGROUND INFORMATION

4.1 Ownership and land tenure description

Jiayao Forestry Development Co. Ltd. (JFDC) is a forest enterprise, which is located in Gaoyao city (county-level) of Guangdong Province. The land of JFDC is distributed in 9 towns of Gaoyao and 3 towns of Yunfu, with a total area of 9,154 hectares.

In China, there are 2 forms of ownership for forest and forestland, viz. state ownership and collective ownership. State-owned forest is mainly distributed in the north of China, including 7 provinces: Heilongjiang, Jilin, Inner-Mongolia, Tibet, Shanxi, Gansu and Xinjiang. Collective forest is owned by local villages/towns (also called community forest), mainly distributed in 10 provinces in the south of China: Hainan, Guangdong, Guangxi, Hunan, Hubei, Fujian, Jiangxi, Zhejiang, Yunnan and Sichuan.

In Gaoyao and Yunfu, most of the land managed by JFDC belongs to the local villages. Village representatives, the local forestry bureau, and JFDC enter into a legal agreement to transfer use right to the FME. Only approximately 210 hectares of land belonging to Yangmei Reservoir under the management of Gaoyao Water Resources Bureau stated-owned, on which the plantation is co-managed (share-based management) by Yangmei Reservoir and JFDC, and the profit gained by the reservoir from co-managed plantation is used to pay for staff's salaries, road building and house building.

The forestland of JFDC is either rental-based or share-based. Rental-based forestland management started in 2006 and accounts for about 20% of the FME's total forest. Some of the plantation was previously share-based, but now rental-based because some farmers are not willing to shoulder responsibilities of fire prevention in addition to worry about failure in plantation productivity that has occurred in some privately own companies. For the conversion of some other forestland from share-based management to rental-based one, discussion is still in progress between JFDC and farmers. The annual rental is now 45 yuan/mu (one mu=1/15 hectare), which will increase by 0.5 yuan/mu every year. For the share-based forestland, villagers will get 30% of post-taxed standing volume at harvest. So villagers share with the FME the FM risks of a complete rotation. Whether the forestland is managed on the rental or share basis is dependent on farmers' decision.

An "Opinion on Advancing Forest Tenure Reform in Collectively-owned Forest Areas" was issued by the CPC Central Committee and the State Council on June 8, 2008. According to the document, all the collectively-owned forest will be allocated to every household in five years. Forest tenure reform hasn't been launched in Gaoyao so far. It is necessary to pay more attention to progress in forest tenure reform and potential tenure conflicts resulting from the reform. It is estimated by officials of local forestry bureau that rental-based forestland management might be converted to share-based one with no negative effect on forestland owners in the future when the document is implemented locally.

4.2 Legislative and government regulatory context

Forest is divided into forest for public benefit and commercial forest in China. No matter who is the owner of the forest for public benefit, the forest for public benefit is not allowed to cut with some

subsidy mainly coming from government. In Gaoyao, the forest area for public benefit reaches more than 22,000 hectares, accounting for 18% of the total forest area.

Cutting quota policy is implemented in China. The annual cutting quota for the country is determined by State Forestry Administration, which is assigned to every province in accordance with the provincial allowable harvest calculated based on forest increment. For JFDC, it should submit a harvesting application to Guangdong Forestry Bureau (GFB) for approval every year. The cutting quota for JFDC is defined by GFB and is assigned to Gaoyao Forestry Bureau. Before cutting operation, JFDC has to apply for a cutting license to Gaoyao Forestry Bureau, Gaoyao Forestry Bureau is responsible with supervising harvesting activities of JFDC and ensures harvesting volume not to exceed allowable cutting quota admitted to JFDC. In Gaoyao, some other companies or individuals also have forestland. So the balance between harvesting volume and growth volume on the forestland of JFDC is controlled by JFDC itself.

In order to encourage foreign companies to invest in plantation establishment, Guangdong Province government issued "Management Regulations on Foreign Investment in Plantation Establishment" in 1999. In addition, government set some other preferential policies, such as reducing or exempting taxes, simplifying the procedure on transferring or leasing land, and giving priority to a cutting quota. In 2006, Guangdong provincial government issued "Management Regulations on Resolving Disputes in Forest, Trees and Land" to ensure the steady development of commercial plantation.

Gaoyao also set some preferential policies to attract foreign investment. JFDC is entitled to enjoy these policies, such as exempting some taxes and fees because JFDC is now a 100% foreign-invested enterprise.

4.3 Environmental Context

In Gaoyao, there is more than 22,000 hectares of the forest for public benefit, accounting for 18% of the total forest area. JFDC has signed a contract with the forestry station of a town to co-manage 774.2 ha of the forest for public benefit, in which FME's plantation rangers are involved in the protection of the forest and FME also provides technical support and certain fund. As seen in the Dinghu Mountain, a nature reserve, the typical natural forest there should be a mixed forest of ever-green broad-leaved and coniferous species.

The forestland managed under JFDC was previously either plantation established by aerial seeding or seeding, which is low in economic return (see 4.4 for reference), or a wasteland with no trees on it.

For JFDC, *Eucalyptus spp.* is its top choice. Because low in genetic diversity, plantation is weak in resistance to diseases and pests. JFDC therefore sets *Acacia spp.* as a candidate species. JFDC cooperates with Tropical Forestry Research Institute to study *Acacia spp.* with research fund and testing plots supplied by JFDC. So far JFDC has well known seed sources, improved cultivars, and local adaptability of *Acacia spp.* Once there is a serious problem with *Eucalyptus*, JFDC will replace *Eucalyptus* with *Acacia*.

As compared with *Eucalyptus* in South Africa and Brazil, JFDC thinks that there is a great potential to increase growth of *Eucalyptus*. In the past years when JFDC initially started to establish plantation, seeds or seedlings were used (1998), gradually followed by seeds from seed orchards and clones of elite species or hybrids (all cuttings in 2002 and tissue cultured plantlets since 2006) based on comparison among about 100 clones. It is expected to use tissue cultured plantlets in

plantation establishment in the near future, for which a SFC's R&D lab has been set up nearby the headquarter of the FME. The FME is considering to increase genetic diversity in terms of use of different clones and to have clones arranged by the compartment.

JFDC has paid attention to soil fertility and productivity. The FME has set sampling plots in *Eucalyptus* plantation (8 in Baizhu and 9 in Huilong), *Acacia* plantation (1 in Baizhu and 1 in Huilong), pine plantation (3 in Baizhu and 3 in Huilong) and pine plantation set in the category of the forest for public benefit (3 in Baizhu and 3 in Huilong) to conduct investigations in terms of growth rate, understory vegetation diversity and biodiversity, and soil physicochemical measurement. As compared with pine plantation, it has been found that both *Eucalyptus* and *Acacia* plantations have not led to many changes in soil structure (moisture-holding capacity, volume weight, capillary capacity, total porosity, capillary porosity, non-capillary porosity, and aerated porosity); soil acidity is the lowest in *Eucalyptus* plantation (caused by litter of *Eucalyptus* trees); the content of organic matter is the highest in *Eucalyptus* plantation (caused by litter of *Eucalyptus* trees); and instant N, P and K as well as potential whole N, P and K maintain at a high level in *Eucalyptus* plantation (even higher than that in *Acacia* plantation). In fertilizer application, JFDC uses a compound fertilizer mainly composed of N, P and K with medium- and micro-elements such as Ca, Mg, B and humus added, which is developed by JFDC itself. JFDC strictly controls the withdrawal of fertilizer-packaging bags. In addition, SFC's R&D Centre is planning to develop microorganism-based compound fertilizer and ecologically friendly waste-based organic fertilizer.

In addition, JFDC has reduced the planting density from 1666 trees/ha to 1275 trees/ha, regulated the time period of a rotation (for example, 5 yrs for the plantation established by coppicing), improved fertilizers used, changed the amount of fertilizer used, and modified management measures for coppice removal, thinning, weeding and vegetation management. Together with College of Forestry, South China Agricultural University, JFDC has found that there were 55 plant species in the understory of *Eucalyptus* plantation as compared with 49 species in that of pine plantation. There were not many differences between *Eucalyptus* and *Acacia* plantations. 19 species of insects have been observed with more found in *Eucalyptus* and *Acacia* plantations than that in pine plantation and no difference between *Eucalyptus* and *Acacia* plantations. More birds were observed in 3-4 year old *Eucalyptus* plantation, followed by pine plantation in the category of the forest for public benefit, 5-6 year old *Eucalyptus* and *Acacia* plantations, pine plantation and 1-2 year old *Eucalyptus* plantation. So far no protected animal and plant species have been found.

8 special habitats have been set by JFDC including valley and drinking water sources, for which special measures for protection, management and monitoring will be taken. In addition, JFDC has set aside ecologically sensitive areas such as steep slope, bank of water bodies, etc., for which special management measures have been worked out and implemented. For loss of soil nutrients, soil erosion, effects of FM on water bodies, etc. caused by FM, JFDC also have taken some measures and got some conclusions.

So far 2 diseases and 4 pests possible to do damage to *Eucalyptus* plantation have been identified, but no serious damage has taken place. JFDC is intended to select clones resistant to diseases and pests and use multiple clones in afforestation by the compartment to prevent diseases and pests.

Relatively speaking, *Eucalyptus* trees are more tolerant of fires than pine, Chinese fir, *Acacia* and bamboo. For this reason, it is said that plantation fires seldom extend to the canopy layer of *Eucalyptus* plantation and small understory fires won't do damage to plantation, but promote tree

growth. Anyway in dry season, JFDC will try to control fires by ranging from plantation to plantation.

Details are available from “JFDC’s plantation management: a summary report on sustainability, EIA and SIA (in Chinese)”.

4.4 Socioeconomic Context

As is mentioned above, JFDC’s land is located in Gaoyao and Yuncheng District of Yunfu. Gaoyao is a county-level city under Zhaoqing City, with a total area of 218,520 hectares and a population of 728,900 (2003). It is located about 100 km west of Guangzhou City, capital of Guangdong Province. Gaoyao has 18 towns, in 9 towns or 70 villages of which JFDC established plantation. The 9 towns include Liantang, Huilong, Baizhu, Huodao, Jiaotang, Xiaoxiang, Jinli, Dawan and Lecheng.

Yuncheng is a district under Yunfu City, with a total area of 71,658 hectares and a population of 276,800 (2000). It is located in west of Guangdong Province and borders on Gaoyao. Yuncheng has 8 towns, in 3 towns or 26 villages of which JFDC established plantation. The 3 towns include Yaogu, Duyang and Antang.

Gaoyao and Yuncheng are at the mid-upper level in terms of economic development in Guangdong. There are rich mineral resources, such as goldmine in Gaoyao and sulfur-iron mine in Yuncheng, to support higher industrial value production. The main income sources of farmers are rice, vegetables, fruit, animal husbandry (pigs, chickens and ducks) and aquaculture (fish). In many towns, export of labor force is also an important income sources, including work in foreign countries. In general, the livelihood of local farmers doesn’t heavily depend on forest/plantation. Farmers have some income from bamboo, pine trees and bee raising. The resin collected from Masson pine and slash pine was sold at 2-3 yuan/kg before, but now only a few people collect non-timber forest products (NTFP) from forest/plantation. It’s estimated that the income from *Eucalyptus* plantation is at least 5 times as much as that from pine trees. On the average, the farmers’ annual income reaches 4500-6000 yuan *per capita* in Gaoyao and Yuncheng.

In China, the system of villagers’ autonomy has been established according to Article 111 of the Constitution (revised in 1982). The villagers’ committee is a grass-roots autonomous organization. It is responsible for dealing with public affairs and public welfare on behalf of villagers. Before a land-use contract between the FME and landowners is signed, farmers’ representatives, who are elected by farmers themselves, are organized by the villagers’ committee to have meetings. At these meetings they decide whether or not transfer use rights of land and discuss acceptable terms. In general, the maximum period for the transfer of land-use rights is 50 years, but it is likely to extend to 70 years according to the State Council’s newly issued document.

APPENDIX I: Public summary of the management plan

(NOTE: To be prepared by the client prior to assessment, Information verified by assessment team)

Main objectives of the forest management are:

Primary priority: to provide short-rotation *Eucalyptus* timber for further industrial processing.

Secondary priority: to increase standing volume and annual growth

Other priorities: to promote multi use of forest; to protect environment during forest management; and to promote the use of advanced techniques

Forest composition:

Almost all the forest is mono-species plantation. The main tree species is *Eucalyptus* spp. A candidate species is *Acacia* spp. when epidemic diseases or pests break out. Other tree species have also been tested in JFDC. See 5.4.1 in Appendix III for details.

Description of Silvicultural system(s) used:

Normally, FME adopts a six-year rotation silvicultural system. At the beginning, JFDC establishes the plantation by planting plantlets and small-scale site preparation is used. Plantlets are propagated by cutting from Sept. to March of the following year. If the plantlets are propagated in Sept., controlled growth will be adopted because plantlets with a height of 20 – 30 cm will grow best. The shortest growing period of time for plantlets in the nursery is about 50 days. It is hoped to use all the tissue cultured plantlets in the future for their vigorous growth and it is estimated the annual yield of tissue cultured plantlets is about 6 millions. So far 10 *Eucalyptus* clones have been adopted in production with different percentages for different clones, but more than 100 clones are being tested. In Gaoyao, it is rainy season after April and afforestation is conducted from March to May after rain. Usually site preparation, tending and regeneration by coppicing are conducted in spring and the former two are usually finished before rainy season. Tending operations include fertilizer application and weeding. In the fertilizer application, there is twice in the first year: one is basal dressing and the other is topdressing. In the second and third years, topdressing is done once each year and no more fertilizing in the following years. Weeding is done in combination with fertilizing. Harvesting is done from Oct. to March of the following year when it is dry season and clear cutting is carried out. Before harvesting, harvesting quota should be approved by local forestry bureau and licenses for harvesting and transportation should be in hand. After the first rotation, FME may clean the site and establish a new plantation by planting or coppicing (only once). If the plantation is established by coppicing, FME will reserve only one sprout and remove other sprouts in the first year and second year.

Silvicultural system	% of forest under this management
Even aged management	9153.7 ha
Clearfelling (clearcut size range)	9153.7 ha
Shelterwood	ha
Uneven aged management	ha
Individual tree selection	ha
Group selection (group harvested of less than 1 ha in size)	ha
Other types of management (explain): FME also helps local forestry	774.2 ha

authority to manage some of the forest for public benefit. For these forests, commercial harvesting is forbidden. FME only helps to take care of these forests to avoid forest fire and forest disease or pests.

Harvest methods and equipment used: Clear felling with a chainsaw

Estimate of maximum sustainable yield for main commercial species: 204394 m³ in 2018 according to estimated yields from 2008 to 2021.

Explanation of the assumptions (e.g. silvicultural) upon which estimates are based and reference to the source of data (e.g. inventory data, permanent sample plots, yield tables) upon which estimates are based upon.

In JFDC, there are some permanent sampling plots and local forestry bureau will carry out regular forest inventory (usually once every five years). Based on the forest inventory data, JFDC asked Guangdong Forestry Inventory and Design Institute to draft *JFDC's Plantation Management Plan*.

JFDC made a forest inventory in March of 2008 itself. Based on the inventory data and a model established on height and DBH measured from sampling plots, standing volume is calculated

According the principle of annual harvest should be no more than annual growth, FME turned to a qualified governmental agency to design its harvesting plan in the following yeas. The timber yield is between 124,488 to 204,394 cubic meters from 2008 to 2021.

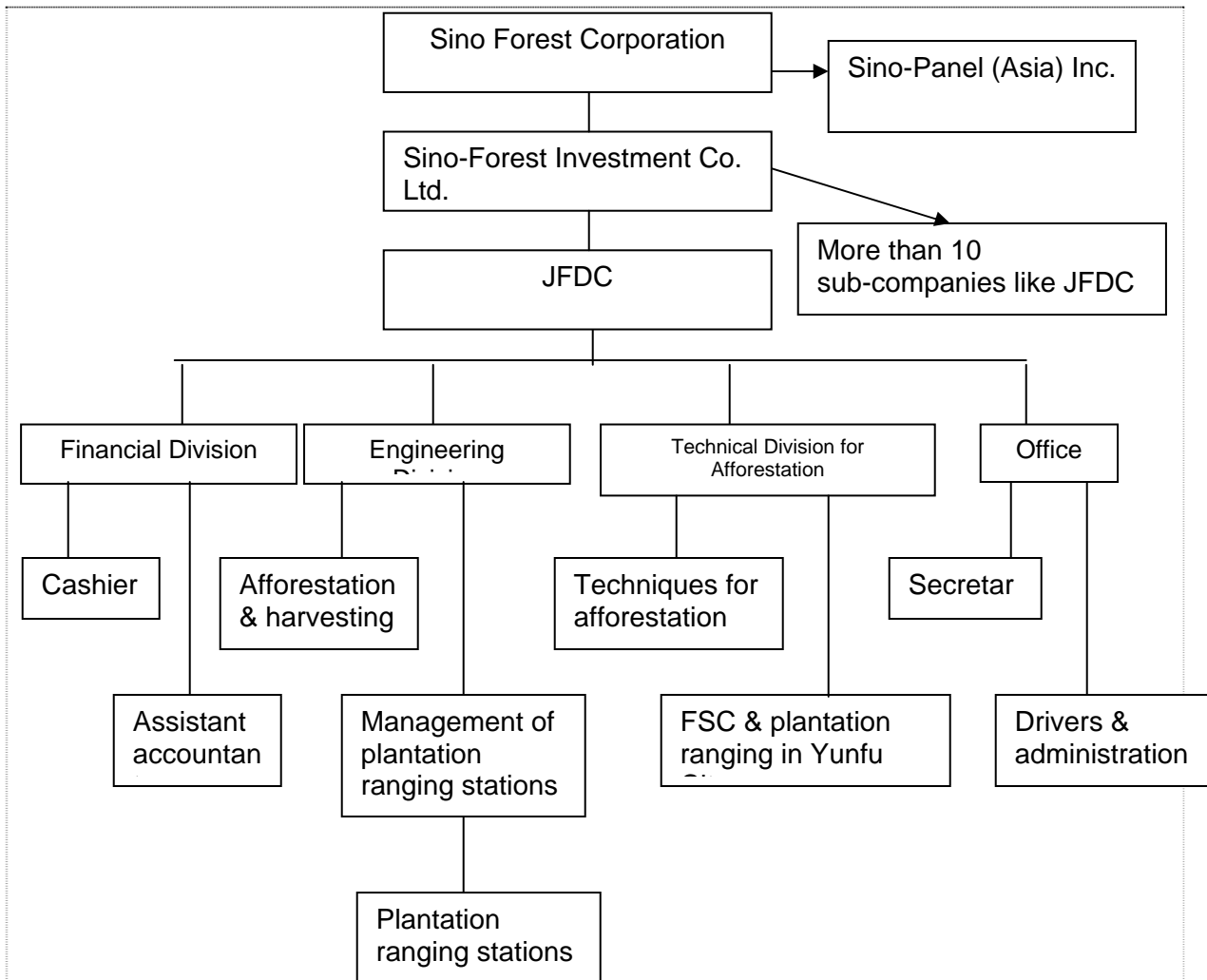
FME organizational structure and management responsibilities from senior management to operational level (how is management organized, who controls and takes decisions etc.)

As shown in 1.1 Scope of the certificate, under Sino-Forest Corporation, there are Sino-Panel (Asia) Inc. and Sino-Forest Investment Co. Ltd. Sino-Forest Investment Co. Ltd. has more than 10 sub-companies and JFDC is one of them. Now JFDC is a 100% foreign-funded enterprise and an afforestation company in nature.

HK-based headquarters of Sino Forest Corporation is the highest decision maker. At the Headquarters, Dr. Run-Peng Wei is in charge of the work in the R & D Department and FSC working group. Ms. Miranda Lin is an environmental manager responsible for environmental protection-related issues and Ms. Jayco Fung is another manager responsible for FM information. Three of them are taking care of the forestry certification-related issue.

In JFDC, 5 people are involved in FSC certification-related work. Qianghua He is responsible for afforestation of JFDC. Ruiguang Xuan is in charge of FSC certification-related issues. Qiming Zhang takes care of field work and biodiversity. Zhifen Su is responsible for office work and document management. And Zhengjun Li is in charge of business, revision of FSC-related documents and monitoring.

FME organizational structure and its relationship with parent company is shown as follows:



Structure of forest management units (division of forest area into manageable units etc.):

Totally there are 12 FMUs, 9 of which is in Gaoyao city and 3 in Yunfu City.

FMU	Area (ha)
Liantang	563.93
Huilong	2886.47
Baizhu	2350.67
Huodao	1776.73
Jiaotang	57.40
Xiaoxiang	60.00
Jinli	173.27
Dawan	338.20
Lecheng	87.60
Yaogu	593.87
Duyang	157.40
Antang	108.13

Monitoring procedures (including yield of all forest products harvested, growth rates, regeneration, and forest condition, composition/changes in flora and fauna, environmental and

social impacts of forest management, costs, productivity and efficiency of forest management)

In JFDC, there are three systems for monitoring of tree growth, environmental impact and social impact.

There are 20 permanent sampling plots in JFDC, each of which is 20 X 20 square meters in area. Every year the growth indicators will be monitored when tree growth ends, such as tree species, number of standing trees, height and DBH.

Some environmental indicators are monitored in some eco-sensitive areas. The indicators monitored include soil nutrients, biodiversity and water quality. Some of them are monitored and measured once a year, some just once in 3 years. Also see 4.3 Environmental Context for reference.

Before implementation of some forest operations, JFDC discusses with local communities to get their approval. And JFDC mainly focuses on if local farmers' benefits are concerned and protected. The plantation rangers of JFDC's forestry stations act as a bridge between local communities and JFDC and are responsible for feedback of local people's opinions to JFDC regularly.

Environmental protection measures, e.g. buffer zones for streams, riparian areas, etc., protection measures for Rare Threatened and Endangered Species and habitat

During the forest management planning, JFDC carried out an environmental evaluation although the evaluation report is not so good in quality, and addressed possible negative environmental impacts caused by forest management activities. In addition, JFDC has defined and identified some ecologically sensitive areas and corresponding measures have been worked out and adopted in order to reduce these negative impacts. Details are available from guidelines for each of FM operations in the form of operational requirements. For example, FME uses a low density and terrace-like site preparation method in order to reduce soil erosion; FME has established some special habitats in order to provide habitats for some animals; and low harvest density was used in some watershed area and buffer zone near streams. So far no RTE species have been found within the plantation of JFDC.

Other Sections may be added by the FME:

FME's FM plan revised in March of 2008 is composed of the following:

Preface

1 General principle

2 Management period, management policies & management objectives

3 Existing forest and its geographical distribution

4 Forest development plan from 2008 to 2021

5 Prediction of standing volume, timber yield and production value of timber

6 Outline of forest use

7 Plan for road building in the forest area

8 Plan for protection of forest and environment

9 Plan of Sino Forest Corporation for research and application of novel techniques

10 Community distribution and information exchanges in the forest area

11 Investment plan

12 Organizational construction

13 Long-term work from 2022 to 2051

14 Appendix: an outline for plantation management in Huilong and Baizhu

15 Main management in 2007 and an annual management plan for 2008

16 FSC FM certification
17 Instructions for figures and tables
2 figures and 9 tables
Details are available from JFDC headquarters