

Chapter IV

Stakeholder perspectives on constraints and lessons learned in Guangdong Province

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1. Introduction

A workshop, “Review of forest rehabilitation¹ initiatives in Guangdong: lessons from the past”, was held at the Research Institute of Tropical Forestry (RITF), Chinese Academy of Forestry, Guangzhou, on 27 May 2004. This workshop was conducted by the Center for International Forestry Research (CIFOR), Bogor and RITF as part of a CIFOR regional research project to discover lessons from past successes and failures of forest rehabilitation. It provided a platform for different stakeholders involved in rehabilitating degraded forest lands² in Guangdong to share their experiences and perspectives on key problems and make recommendations to address them.

There were 30 participants representing the Guangdong Forestry Bureau, project implementing agencies, city and county forestry bureaus, state and collective forest farms, forestry departments in townships and villages, private companies, individual investors and forestry research institutes. The participants were divided into three groups according to the types of projects they managed. The first group represented the provincial forestry bureau, a state forest farm, and city and county forestry bureaus covering the National Afforestation Project (1990-96) and the project “Rehabilitating degraded forest land in five years and greening

1 See Chapter I for details on rehabilitation terminology.

2 There is no official term “degraded forest land” in China. We estimated degraded forest land in the larger study as the sum of burnt-over forest areas; logged-over areas; *sparse forest*; and some grass, shrub and barren land identified as suitable for planting trees.

Guangdong in 10 years" (1985-95). The second group represented city, county and district forestry bureaus involved in the Coastal protective forest construction project (1991-2010) and City forest landscape rehabilitation projects from the 1990s. The third group were from private enterprise, local joint management forest farms³ and individual investors.

Presented below are results of the three working group discussions on:

- Key issues and problems and recommendations to promote and sustain rehabilitation.
- The main lessons learnt from past experiences.
- Outputs required by various stakeholders for promoting sustainable forest rehabilitation.

2. Key issues/problems and recommendations

The first group, comprising government agencies involved in past large-scale government projects, reported many technical, financial, institutional and policy/legal problems (Annex 1). Their recommendations were closely linked to the problems listed and were addressed to the provincial government, mainly the provincial forestry bureau. Technical issues included lack of effective measures to deal with pests and diseases, fires, and low use of improved species varieties. Their recommendations included building fire-break forest belts, adjusting tree species and forest structure to reduce flammability, providing incentives for using improved varieties and seedlings, and establishing a regional research institute to address the key problems.

Financial constraints included inadequate funds for *afforestation*⁴ and local forestry staff, and high timber taxes. They recommended that all levels of government increase their financial input into forestry to at least one percent of their budget, and improve their oversight of how funds are allocated. Tenure conflicts had to be resolved, coordination between government departments improved, and effective punitive measures introduced for not fulfilling rehabilitation tasks. A central electronic data management system was recommended. Scant attention was paid to subsequent forest management and tending compared with *afforestation* activities and this needed to be addressed to achieve sustainable rehabilitation.

³ Joint management refers to cooperative efforts between institutions — such as forestry departments with other government departments, state forest farms with village committees, village committees with individuals and foreign enterprises — with sharing of land, techniques, management and benefits.

⁴ *Afforestation* includes forest establishment through planting trees, aerial seeding or *mountain closure* on barren mountains, barren sandy land, *sparse forests*, burnt-over and logged-over forest areas, and some shrublands and grasslands. It also includes planting trees along roads and rivers, around houses and villages and as shelterbelts in farms. The term "*afforestation*" as used in China includes regreening recently deforested areas.



Group discussions in October 2004 workshop at RITF, Guangzhou. (Photo by Takeshi Toma)

The second group, comprising city, county and district forestry bureaus involved in coastal and city landscape rehabilitation projects, found the technical issues most important in their projects, which were primarily for ecological purposes. Their concerns arose from rehabilitation failures as a result of poor species-site matching; large-scale planting of fast-growing, often exotic species and monocultures unable to cope with poor site conditions or disturbances; severe pest and disease outbreaks; and fires (Annex 2). Their recommendations included compulsory species-site matching; establishing forests with mixed species and structure better able to withstand unfavourable environments; using more native species and improved varieties; establishing forest belts as fire-breaks; and, improving research on valuable native tree species. These recommendations were addressed to the responsible local forestry institutions.

Key issues also included a shortage of *afforestation* funds and land tenure conflicts due to unclear boundaries and scattered fragments of forest land⁵ to be rehabilitated. They believed the government needed to take the initiative in planning, organising and managing rehabilitation initiatives. The protection of already rehabilitated forest had to be strengthened. There were also particular recommendations for

5 “Forest land” includes forests, *sparse forests*, shrub land, young plantations, seedling nurseries, *logged-over and burnt-over* forest areas, and all land suitable for planting trees as designated by the different levels of government.

research institutes such as CIFOR to study specific cases to resolve the constraints they faced, and to hold more workshops to assess experiences and find solutions.

The third group, comprising private enterprise, local joint management forest farms and individual investors, provided an economic perspective of rehabilitation on leased or jointly managed forest lands. Financial issues appeared to be critically important to this group. However, private initiatives⁶ are a recent phenomenon and the projects may not have reached a stage where technical and other issues begin posing major problems. The key financial problems cited were high land rents, high forestry taxes, difficulties in obtaining bank loans, and no natural disaster insurance for forestry investments (Annex 3). They recommended greater financial incentives and further facilitation of private *afforestation* activities.

Besides tenure conflicts, the group also noted pest and disease outbreaks and fires as key problems and made recommendations similar to those of the other groups. Safeguards were needed to protect the legitimate rights and interests of the parties who leased and afforested the land, and to allow more freedom to the managers with regard to logging quotas. Recommendations were mostly addressed to the local and provincial government agencies.

3. Key lessons learned

1. Policy stability is a must to encourage investment in, and long-term management and sustainability of *afforestation* efforts.
2. Government needs to strengthen its administration of rehabilitation activities and provide clear policy guidance.
3. Civil society and all government levels need to be mobilised to rehabilitate degraded forest lands.
4. A targeted management responsibility system for forestry administration at different levels helped to fulfil the project tasks.
5. Raising funds from many sources and through various means needs to be explored.
6. Forestry taxes need to be reduced and greater incentives provided for *afforestation*.
7. The private sector could continue to play a positive role. Related policies and measures need to be improved to encourage further private sector efforts.
8. Successful rehabilitation was achieved by instituting joint management and this is a promising approach.

⁶ Private sector here refers to farmers afforesting and managing their allocated lands, and individual investors and private enterprises afforesting and managing leased or subcontracted forest land for their own income. There is no strict recognised definition and many mixed public-private sector institutional arrangements exist in practice.

9. Tenure clarity and security are critical, and need to be ensured.
10. Site-species matching is a prerequisite for promoting stand growth and maintaining long-term sustainability.
11. Mono-specific plantations largely result in poor-quality stands that are very vulnerable to pest, disease and fire damage. Mixed forests are more resistant.
12. Large-scale *Eucalyptus* plantations established in mountainous areas have shown poor growth and also resulted in land degradation. *Eucalyptus* species are not suitable for *ecological forests*⁷ while native species show good potential.
13. Forest fire prevention and management systems need to be strengthened.
14. Efforts should be intensified to disseminate scientific knowledge and promote its application.
15. Forests and forest lands should be classified according to the main functions they are expected to play: *ecological* or commercial. Appropriate rehabilitation efforts for the two classifications need to be developed.
16. Industrialisation and urbanisation have promoted forestry development and rehabilitation of degraded forest land, and this may be a way forward in many areas.

4. Outputs required by different stakeholders

The different stakeholders listed six main output requirements (Annex 4):

1. Provide simple, practical technical guidebooks
 - For *afforestation*, management, monitoring, and evaluation.
 - For establishing seedling nurseries, fertilising, and preventing and controlling pests and diseases for commonly-used tree species.

To be disseminated to provincial and local governments through meetings and training courses.
2. Set up management systems (compact discs, software, handbooks)
 - For monitoring and managing forest fires.
 - For managing information on *afforestation/* rehabilitation.
 - For forest resource surveys such as remote sensing techniques.

To be provided to provincial and local governments through workshops and training courses.
3. Supply germplasm and seedlings of superior native species or species with high pest and disease resistance, and a handbook on planting techniques.

⁷ *Ecological forests* or non-commercial forests are for the purpose of maintaining and improving the ecological balance and the environment, conserving biodiversity, and providing non-timber forest products.

To be supplied to local governments, and township and private enterprises by research institutes via meetings and training courses.

4. Employ trained forestry personnel in local governments, and trained professionals in township enterprises.
Paper, handbook, training courses, workshops for professionals.
5. Prepare policy document outlining mechanisms/methods for resolving forest land tenure conflicts.
Requested by individual investors.
6. Provide long-standing technical assistance for *afforestation* from the forestry department.
Requested by individual investors.
7. Develop a financial policy through dialogue for supply of *afforestation* funds from government budgets.

5. Summary

The more recently established private and civil sector actors emphasised financial issues, while participants involved in city and coastal ecological rehabilitation projects focused more on the technical problems they already faced. The larger government projects considered an array of issues across the spectrum.

The five overarching problems indicated by all stakeholder groups are:

- a. Pest and disease outbreaks affecting the largely exotic, mono-specific plantation landscape.
- b. Fire problems.
- c. Land tenure conflicts due to unclear boundaries and fragmented forest lands.
- d. Shortage of funds for *afforestation*.
- e. High forestry taxes.

These problems affect the initiation and sustainability of any forest rehabilitation efforts.

The provincial government was called on to provide research and actions to help deal with pests and diseases. Solutions included mixed species forests to reduce vulnerability to pests and fires, using more native species and improved superior varieties to withstand unfavourable environments, and compulsory species-site matching. Clarifying land tenure and settling disputes was a must for sustainable

rehabilitation. Private entrepreneurs and companies in particular demanded their rights and interests be safeguarded, given their efforts to lease and afforest the land.

To improve funding, it was suggested to explore raising money from many sources and through various means. Increasing the financial contribution by all government levels was also recommended, with guaranteed input of no less than one percent of local budgets and improved supervision for how funds are used. Privatisation of rehabilitation initiatives for economic profit is one critical measure, but the private parties called for easier bank loan procurement. There was also a need to reduce forestry taxes, remove the logging quotas, and provide greater economic incentives for *afforestation*. Joint management is another promising approach.

Policy stability is also a must to encourage long-term management and sustainability, as is greater dissemination and use of scientific knowledge. The efforts of all government levels and civil society are required to rehabilitate degraded forest lands, and different sectors could play a role in rehabilitating ecological or commercial forests. Industrialisation and urbanisation have promoted forestry development and rehabilitation of degraded forest land in Guangdong, and this may be a way forward in other similar areas in China.

In terms of outputs, provincial and local governments want practical technical guidebooks and computerised management systems for *afforestation*, fires, and forest resource inventories; and workshops and training courses to enable them to use these tools. Local governments and enterprises seek trained forestry professionals and supplies of superior pest-resistant seedlings, including native species. Individual investors request longstanding technical assistance from the forestry department, and a policy document outlining mechanisms/methods for resolving tenure conflicts. Local government agencies and forestry bureaus would like a policy dialogue to generate and supply *afforestation* funds.

Annex 1. Group 1 key issues and recommendations

No.	Key issues/ problems	Recommendations	To whom?
Technical			
1	Inadequate attention to forest pests and diseases. Lack of specific protection and control measures	Work on preventing and controlling forest pests and diseases	Provincial forest conservation centre and station, forestry bureau
2	Severe forest fires caused by human activities. Underestimating number of forest fires and area burnt due to fear of bearing responsibility	Strictly monitor and regulate fires. Build fire-break forest belts and adjust species and structure to reduce flammability	Provincial government, Forest fires prevention office of provincial forestry bureau
3	Low use of improved varieties	Provide incentives to use improved varieties and seedlings	Provincial government, Provincial forestry bureau, Finance department
4	Need for improved forestry technology	Build regional high-level research institute or branch to address the key problems	Provincial forestry bureau, Provincial department of science and technology
Financial			
1	Shortage of <i>afforestation</i> funds	Increase financial input by all levels of government with no less than 1% of local budgets, and improve the supervision mechanism for using funds	Government at all levels, National People's Congress
2	Insufficient funds for administration and staff salaries in the local forestry departments	Governmental finance department to supply funds for staff expenses at local government level	Provincial government
3	High timber taxation, particularly the forest tending fee and the regeneration fee after logging		
Institutional			
1	Increased land tenure conflicts because of unclear boundaries and scattered forest land fragments	Clarify tenure	
2	Lack of coordination and consistency among forestry departments, municipal authorities and the transportation department with regard to transporting and selling logs from unauthorised felling areas		

No.	Key issues/ problems	Recommendations	To whom?
		Unify information management, download and share electronic version of forms and data	Provincial forestry bureau
Policy/ legal			
1	Little attention paid to forest management and tending compared to <i>afforestation</i>		
2	Inadequate and impractical punitive measures for not fulfilling rehabilitation obligations	Levy a tax for not fulfilling rehabilitation commitments	Provincial forestry bureau, tax bureau
3	The policy of compulsorily regenerating logged-over areas is not implemented well mainly due to funding constraints	Establish a system for generating sufficient regeneration funds and using them specifically to regenerate logged-over forest land	Provincial forestry bureau
		Remove logging quotas for private <i>afforestation</i> and allow forest landowners to make their own management decisions	Provincial forestry bureau
		Reduce and cancel the debts owed by the local forestry departments for bank loans taken out to fulfil the greening ⁸ targets of the 1985-1995 program (trees not reached harvest age but loans are due for payment)	Provincial government
Marketing			
1	Poor marketing of forest products. Insufficient public participation		

⁸ Increasing forest canopy cover to a certain percentage or above, and is expected to result from *afforestation*.

Annex 2. Group 2 key issues and recommendations

No.	Key issues/ problems	Recommendations	To whom?
Technical			
1	Severe pest and disease outbreaks		
2	Severe forest fires	Prevention and better management of forest fires. Establish fire-breaks including natural forest belts	Responsible local forestry agency
3	Little attention paid to improved varieties of native species	Supply improved tree varieties and seedlings, and of native tree species	Forestry research institute
4	Trees planted did not match the local site conditions	Insist on the implementing technicians matching trees with the soil and sites	Department of forest management
5	The Government promoted the planting of fast-growing tree species without adequate site matching, which resulted in economic loss and wasted effort	Government departments stop blindly promoting certain tree species for <i>afforestation</i> without site consideration	Local forestry management department
6	Dominated by monocultures that cannot cope with poor site conditions or disturbances, and result in failures	Expand the establishment of mixed forests that cope better with unfavourable environments	Responsible local forestry institutions
7	Widespread planting of <i>Eucalyptus</i> species resulted in land degradation	<i>Eucalyptus</i> should not be planted in <i>ecological forests</i>	Provincial forestry bureau
8	Little research on native and valuable tree species		
Financial			
1	Shortage of <i>afforestation</i> funds		
Institutional			
1	Rehabilitation affected by increased land tenure conflicts arising from unclear boundaries and scattered fragments of forest land		
2	Need improved planning, organising and management of rehabilitation initiatives	Government to develop a proposal for initiating and organising <i>afforestation</i> , and to play a leading role	Provincial and city forestry bureaus
Policy/ legal			
		Strengthen the protection of coastal shelterbelt forests, and establish related regulations	Provincial forestry bureau
Miscellaneous			
		Hold more workshops like this to sum up the experiences and try to find timely solutions and strategies	CIFOR
		Thoroughly investigate specific projects, and make recommendations to solve problems	RITF, CIFOR

Annex 3. Group 3 key issues and recommendations

No.	Key issues/ problems	Recommendations	To whom?
Technical			
1	Lack of effective methods to prevent and control pest and disease outbreaks	Provide effective methods to prevent and control plant pests and diseases	Forestry research institute
2	Conflict between the slash-and-burn method to prepare land for planting, and the prevention of forest fire	Solve conflicts between burning slash and preventing forest fires	Local forestry bureau
		Provide fertiliser prescriptions for <i>afforestation</i> tree species	Scientific and technical department
Financial			
1	High land rents for private enterprises		
2	High forestry taxation	To reduce forestry taxes and provide greater incentives for <i>afforestation</i>	
3	Difficulties obtaining bank loans	To facilitate loan procurement	Local government
4	Lack of a natural calamity insurance system for forestry investments		
Institutional			
1	Too many conflicts about forest land tenure and forest boundary	To settle land tenure conflicts and disputes	Local government
		Safeguard the legitimate rights and interests of the person who leased and afforested the land	
		Government participation at all levels to rehabilitate the degraded hills	Government at all levels
Policy/ legal			
1	The government has not adequately regulated the fertiliser market to ensure quality	Regulate the fertiliser market to ensure reliability	
		Refine the mechanism for facilitating private <i>afforestation</i> activities	Provincial forestry bureau
		Allow more freedom over logging quota	Provincial forestry bureau, Provincial government

Annex 4. Outputs required by the stakeholders

Agency	Content	Types of products	Style of dissemination
Provincial forestry department	1. Simple technical guidebooks for <i>afforestation</i> , management, monitoring, and evaluation	Pamphlet, guidebook	Mailing, meeting, training course
	2. Application of '3S': Geographic Information System (GIS), Global Positioning System (GPS), and remote sensing technology	Reading materials, handbook	Training course
	3. Information management system for rehabilitation and <i>afforestation</i>	Software or compact discs	Training course
	4. Monitoring and management system for forest fires	Software, handbook	Training course, workshop
Forestry bureau of city, county and district	1. Guidelines for seedling nursery establishment, <i>afforestation</i> , fertilising, prevention and control of pests and diseases for commonly-used tree species	Book, magazine and pamphlet	Mailing, training, provide related information through network platform
	2. Practical techniques for surveying and investigating forest resources, such as remote sensing technique	Compact discs, software	Mailing, training course
	3. Set up information management system for forest rehabilitation	Software and book	Training course
	4. Proposal for local government and forestry bureau (city, county, district) to provide regular funding to carry out <i>afforestation</i> tasks	Setting up a financial policy	Issue document, workshop
	5. Provide germplasm resource of native tree species, and information on planting techniques for the same	Book and handbook	Dissemination by scientific research institute, advertisement, meeting, training
	6. Supervision system for executing rehabilitation-related laws and regulations for different actors	Documents of laws, statutes and regulation	Issue documents
	7. Uniform electronic version of all required forms or sheets for submission by local forestry bureaus to the higher government levels	Put on Web homepage	Download
	8. Enhance the quality and level of forestry personnel in this field	Paper, handbook and report	Training course, workshop
Township enterprise	1. Trained forestry professionals	Training	Training course
	2. Supply tree species with high pest and disease-resistance	Super seedlings	Distributed by scientific research institute
Private enterprise	1. Superior native tree species and their planting techniques	Book	Distribute book

Agency	Content	Types of products	Style of dissemination
Individual investor	1. Forestry department to provide continuing technical assistance for <i>afforestation</i> by individual investors	Policy document	Issue document, training course, workshop
	2. Resolution mechanism and method for solving forest land tenure conflicts	Policy document	Issue document