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- 3 .プロジェクトの概念図(インドネシア側に提出)

1. 団長レター

27 April 2000

Dr. Ir. Untung Iskandar
Director General,
Forestry and Estate Crops
Research and Development Agency,
Ministry of Forestry and Estate Crops

Result of the Preliminary survey on the Development Project
on Carbon Fixing Forest Management in Indonesia

Dear Sir,

On behalf of the Preliminary Survey Team sent by Japan International Cooperation Agency (hereinafter referred to as "JICA"), I would like to express my gratitude to your cooperation extended to us during our stay in Indonesia.

I am very pleased that we had fruitful discussions on the Development Project on Carbon Fixing Forest Management (hereinafter referred to as "the Project").

The result of the survey and the expected outline of the Project based on the survey are shown in the Attached Document. I am sure that Government of Indonesia could fully understand the above-mentioned outline of the Project and expect the implementation of the Project. Through the survey, I firmly believed that both sides acknowledged the forestry practices control the emission of greenhouse gas and contribute to mitigate the effect of global warming.

Lastly, I thank you again for your kind assistance and I hope your further cooperation.

Sincerely yours,



Satoru SHIMAZAKI

Leader,
The Preliminary Survey Team,
Japan International Cooperation Agency

Result of the Survey and Expected Outline of the Project

I. The Outline of the Project

1. Project Title

The Development Project on Carbon Fixing Forest Management in Indonesia

2. Object of the Project

Establishment of Forest Management Model considering the cost-value analysis by the development of afforestation and reforestation technique for high carbon fixing with application of charcoal.

3. Administration of the Project

3.1 Executing Organization.

Forestry and Estate Crops Research and Development Agency,
Ministry of Forestry and Estate Crops.

3.2. Implementing Organization

Forestry and Nature Conservation Research and Development Centre, and
Forest Product Research and Development Centre,
Forestry and Estate Crops Research and Development Agency,
Ministry of Forestry and Estate Crops.

The principal organization shall be decided between the above mentioned two organizations by Indonesian side until the arrival of next survey team (by the end of June, 2000).

3.3 Collaborating Organization on Implementation

State Forest Corporation (Perum Perhutani)

4. Project Office

Project office will be established at the Forest and Nature Conversation Research and Development Centre, or Forest Product Research and Development Centre in Bogor.

5. Project Site

5.1 Experimental plots applying charcoal for afforestation and reforestation

Expected site of the Project are shown below through the field survey.

- 1) Acacia mangium : Kecamatan (KEC) Parung Panjang,
Kabupaten (KAB) Bogor, Propinsi
(PRO) Jawa Barat.
- 2) Pinus merkusil : KEC. Leuwiliang, KAB. Bogor,
PRO Jawa Barat.
- 3) Shorea species (SPP) : KEC .Leuwiliang, KAB. Bogor,
PRO Jawa Barat.

5.2 Existing Forest Plots

Existing forest plots for assessment of stand growth will be proposed by Indonesian side until the arrival of next survey team (by the end of June, 2000)

6. Dispatch of Japanese experts

JICA will dispatch following experts for the Project.

6.1 Long Term Experts :

- 1) Team Leader
- 2) Forest Management
- 3) Silviculture
- 4) Coordinator

6.2 Short Term Expert will be dispatched in the filed of charcoal production technique, soil science etc. when necessity arises.

7. Allocation of Counterpart Personnel

The team confirmed the Government of Indonesia shall allocate full-time Counterpart Personnels for Japanese experts.

8. Training of Counterpart Personnel in Japan

A few numbers of Counterpart Personnel will be trained in Japan annually under the scheme of JICA.

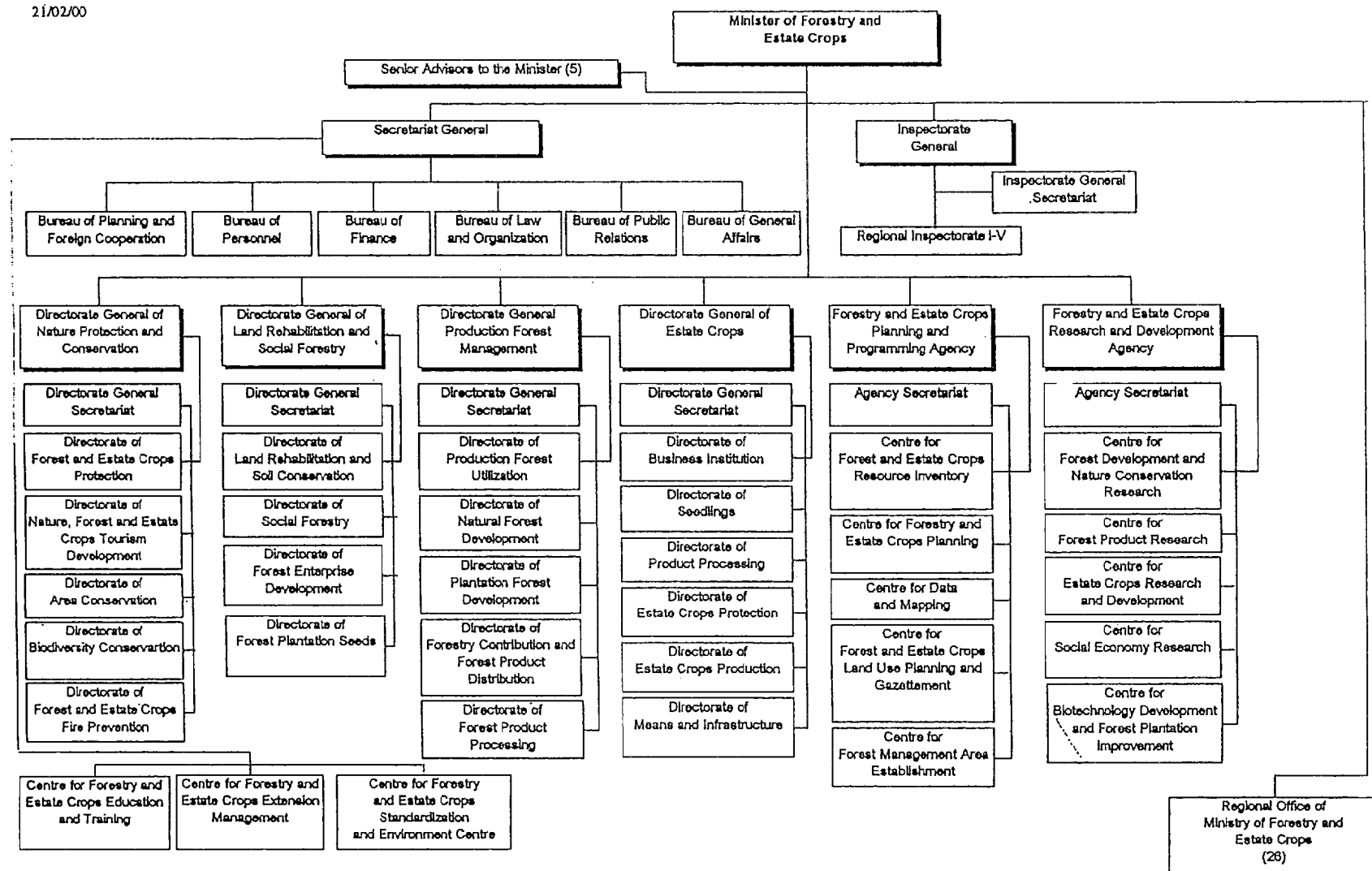
9. Close Collaboration with the other projects

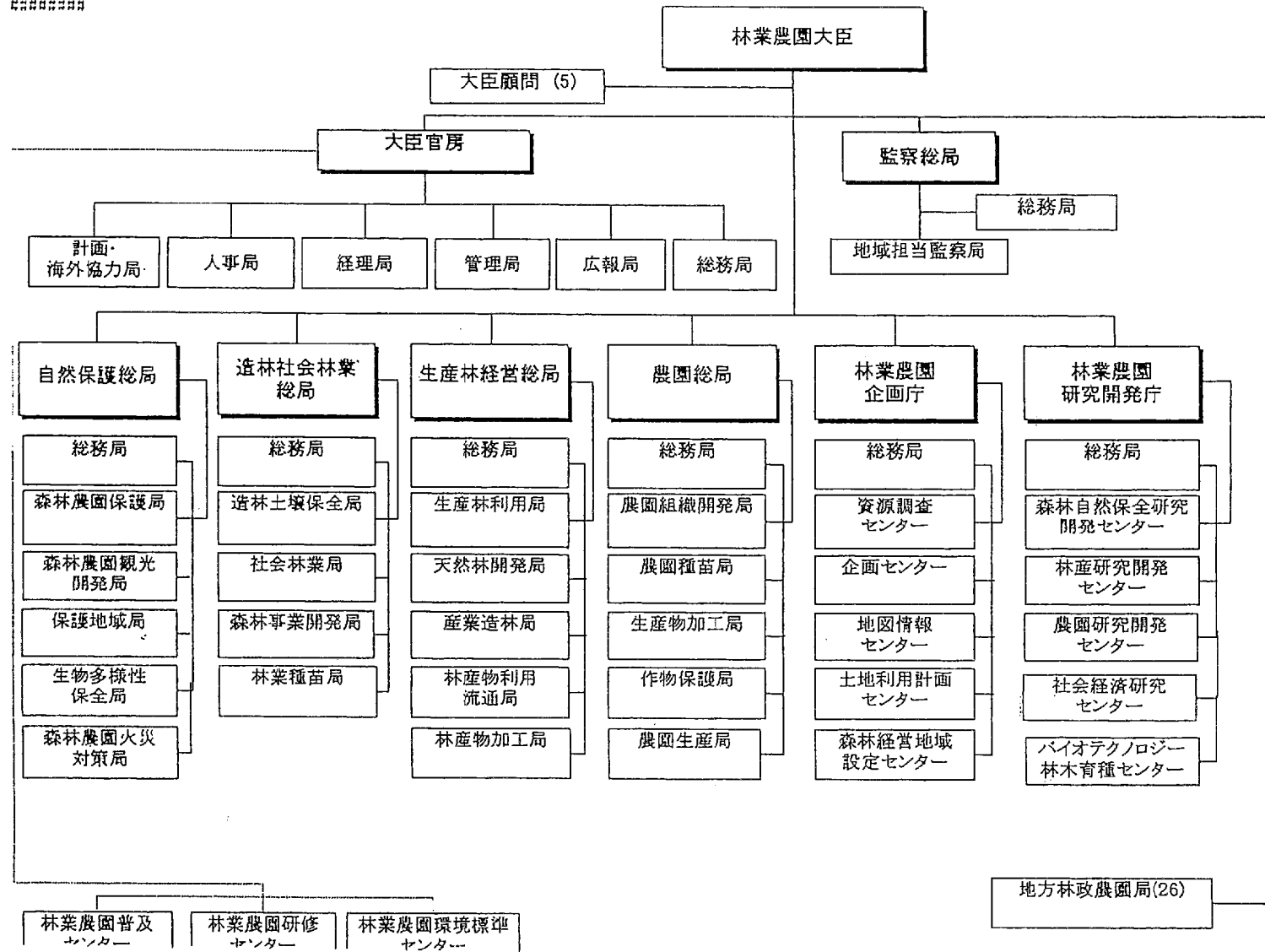
The Project will be implemented in close collaboration with other relevant projects for smooth and effective implementation of the Project.

II. Dispatch of Second Survey Team

In June or July this year, JICA will dispatch Second Survey Team for the purpose of further study in preparation of the Project and discussing Indonesian authorities concerned on the draft contents of the Record of Discussions.

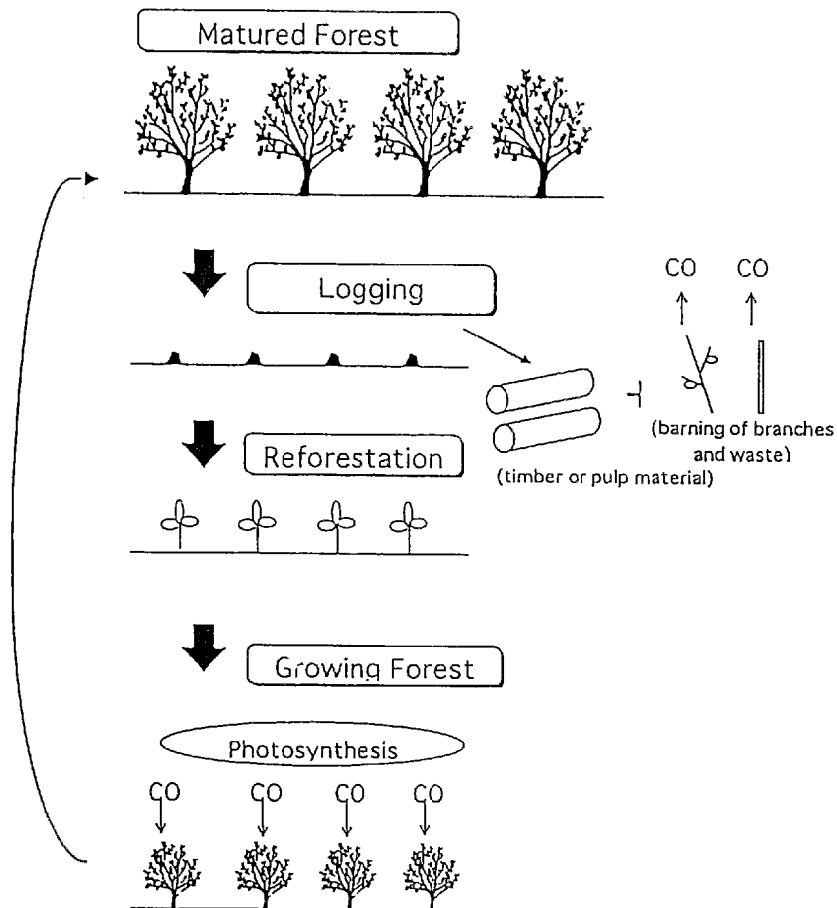
2. 林業農園省組織図



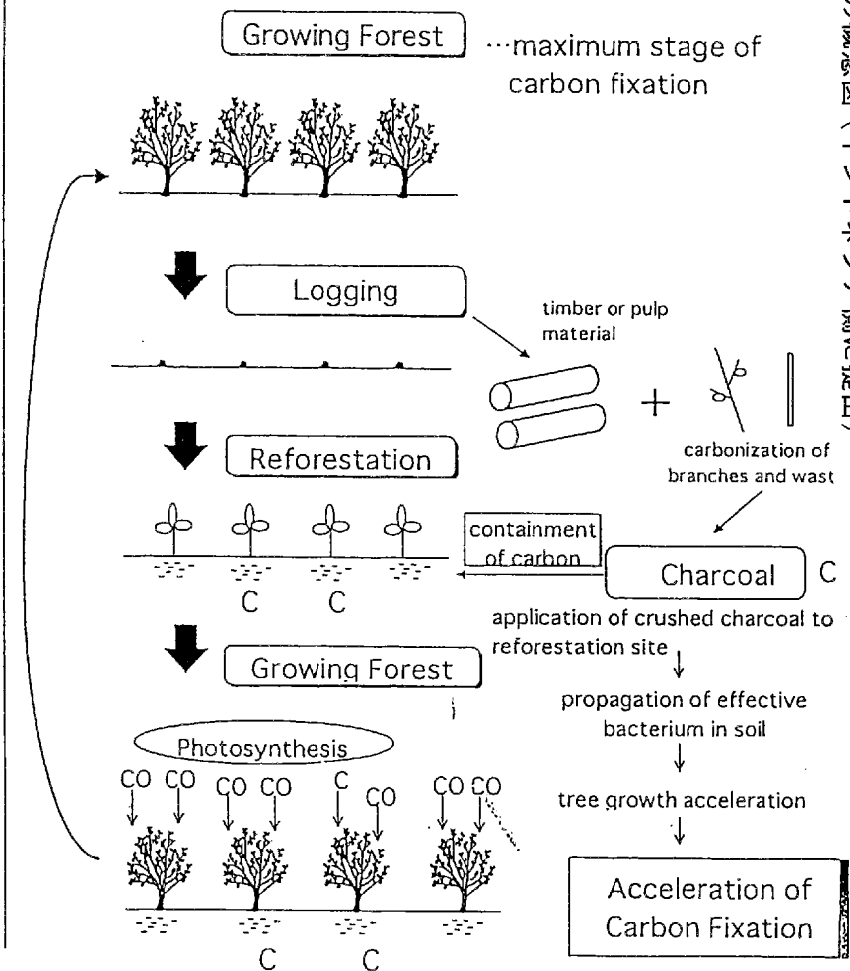


A Chart of the Development Project on Carbon Fixing Forest Management

Common Production Forest Management
(Carbon Fixation = Photosynthesis - Respiration)

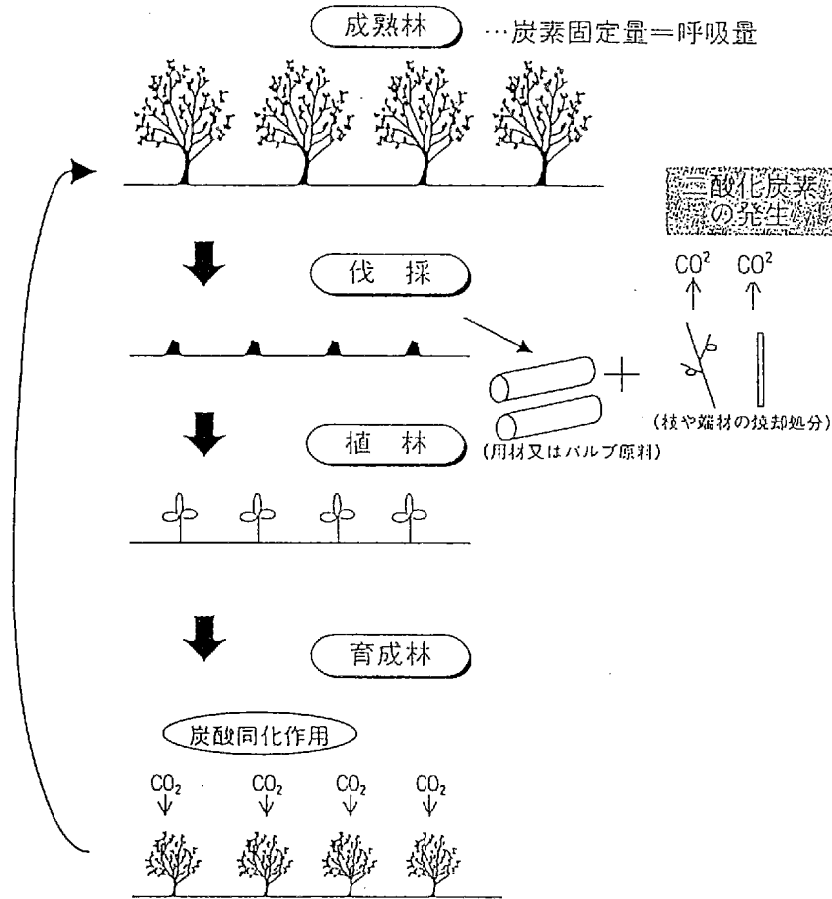


Carbon Fixing Forest Management

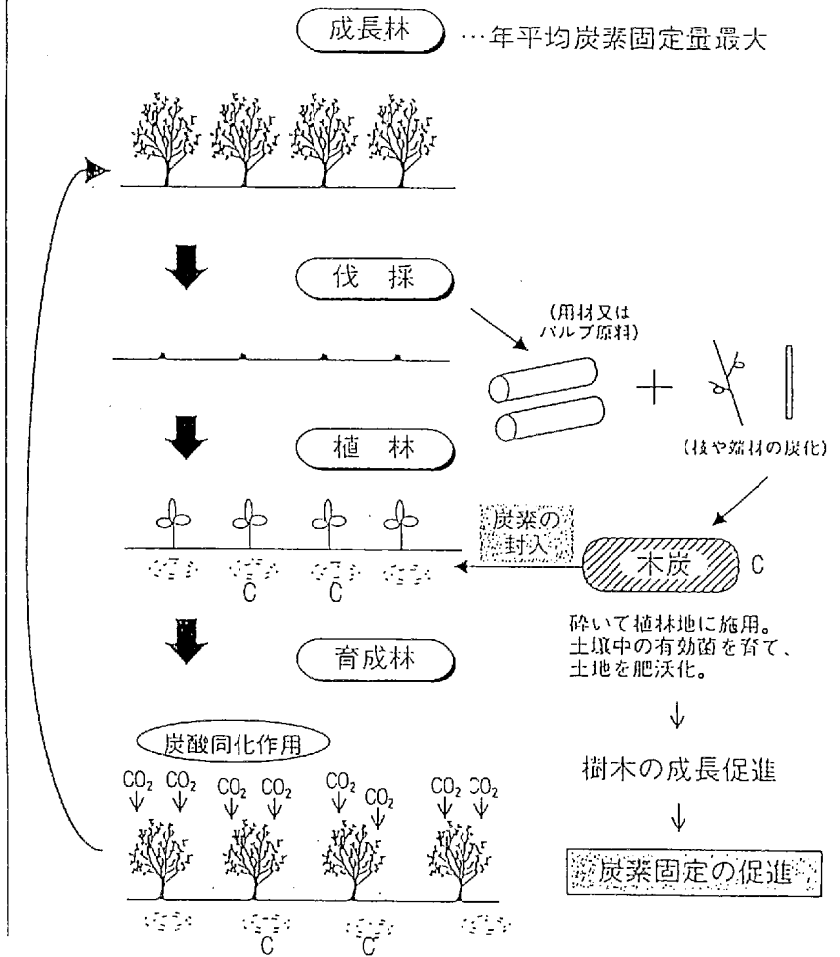


炭素固定森林経営現地実証調査の概要

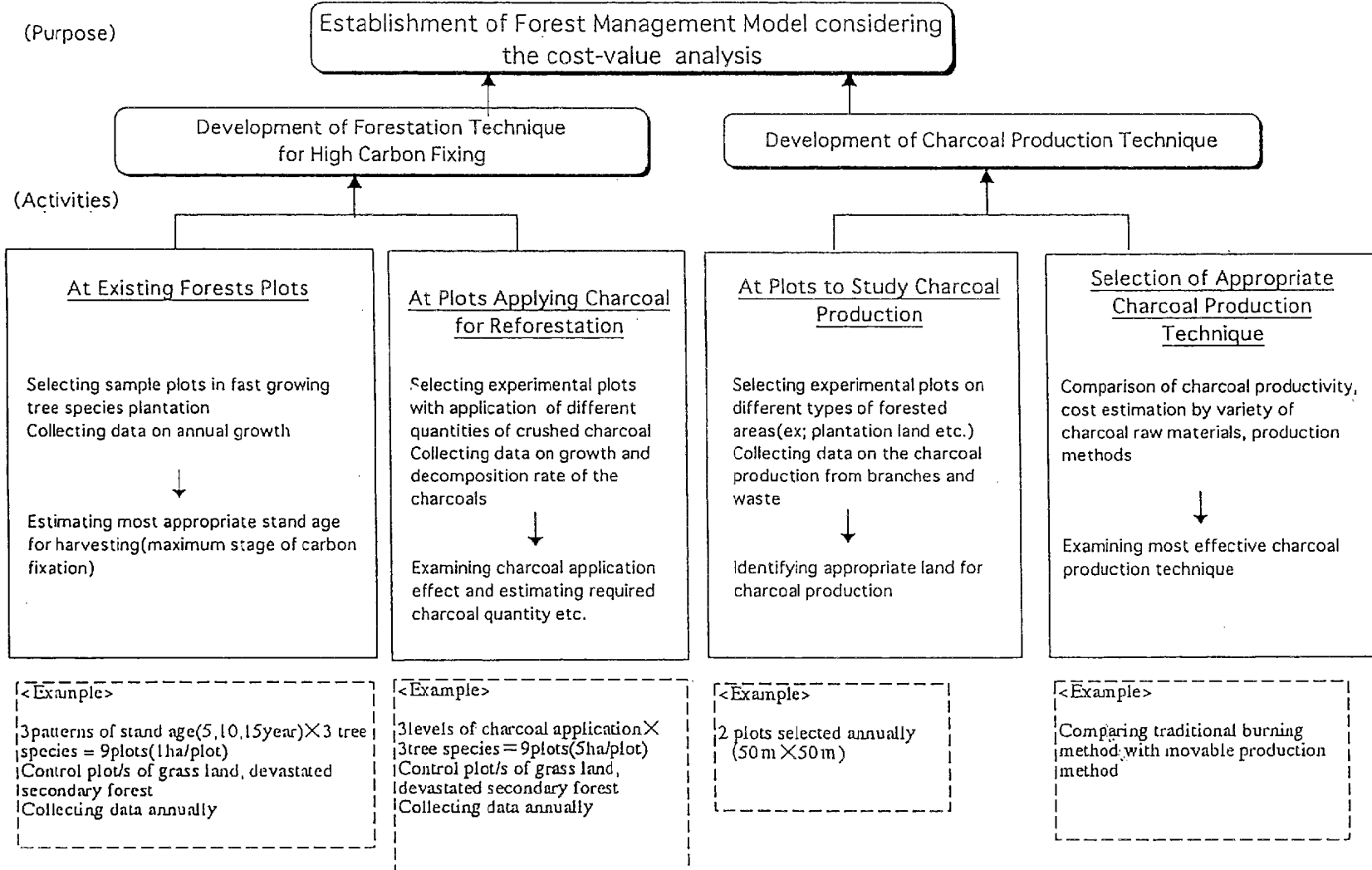
(従来型の森林経営)



(炭素固定森林経営)



A Draft Concept of the Development Project on Carbon Fixing Forest Management



炭素固定森林経営現地実証調査の調査内容（案）

手持ち用

（目的）

経営コスト分析を踏まえた炭素固定森林経営のとりまとめ

高度炭素固定のための造林技術の開発

木炭生産技術の開発

（調査内容）

既存林地の調査区

早生3樹種について植林後5、10、15年を経過している調査区を設置し、毎年の成長量を測定

↓
二酸化炭素（CO₂）吸収量が最大となる樹齢を算定

↓
樹種ごとに最適伐採時期を明確化

3林齢×3樹種=9調査区（各1ha）

毎年測定

木炭施用林の調査区

木炭施用量の異なる植林地に早生3樹種を各々植林した調査区を設置し、成長量、木炭分解速度を測定

↓
木炭施用効果、必要量等を明確化

3林齢×3施用量=9調査区（各5ha）

毎年植林して測定

地拵え時の製炭量調査区

人工林、プランテーション（ゴム、油ヤシ）、山火事跡地等に調査区を設置し、地拵え（造林用地整備）を目的とした伐採による製炭量を測定

↓
木炭利用造林に適した造林用地を明確化

毎年2調査区（50m×50m）

製炭技術の比較

木炭原料の種類と製炭方法の組み合わせによる製炭率、コスト等を比較

↓
効率の良い製炭技術を明確化

「伏せ焼き」と「移動可能な簡易製炭器」の技術を用いて比較

早生3樹種：アカシア・マンギウム、アルビジア、グメリナ