

# プログラムCDM形成手法を活用した森林資源減少対策のガイドライン

## Guideline for tackling the decrease in forest resources using the CDM programmes of activities

パラグアイでは森林の減少が進行し、森林資源の保全・回復は喫緊の課題となっている。JIRCASはパラグアイにおいて最初のクリーン開発メカニズム(CDM)事業を手掛け、植林の促進を図った技術・知見を有している。そこで、先行植林CDM事業成果の他地域への適用を容易にするためプログラムCDMに着目し、パラグアイ行政機関とともに、より広域の植林プログラムCDMの形成に取り組んだ。その成果として、主にパラグアイ行政職員向けの、植林プログラムCDM形成手法を活用した森林資源減少対策のガイドラインを策定した。

The decrease in forest resources is a pressing problem in Paraguay that should be tackled nationwide. JIRCAS tried forming a reforestation programme CDM<sup>1</sup>, applying the results of previous reforestation CDM projects it had implemented in other areas. Consequently, a guideline aimed at tackling the decrease in forest resources using the programme CDM was developed, intended mainly as a reference for government officials in Paraguay.

1) The CDM (Clean Development Mechanism) is a system where emission reductions or removal of greenhouse gases (GHGs) are achieved through GHG emission reduction projects carried out in developing countries. These GHG reductions are converted to carbon credits, which can be added to the emission reduction targets of Annex I countries (developed countries) under the Kyoto Protocol.

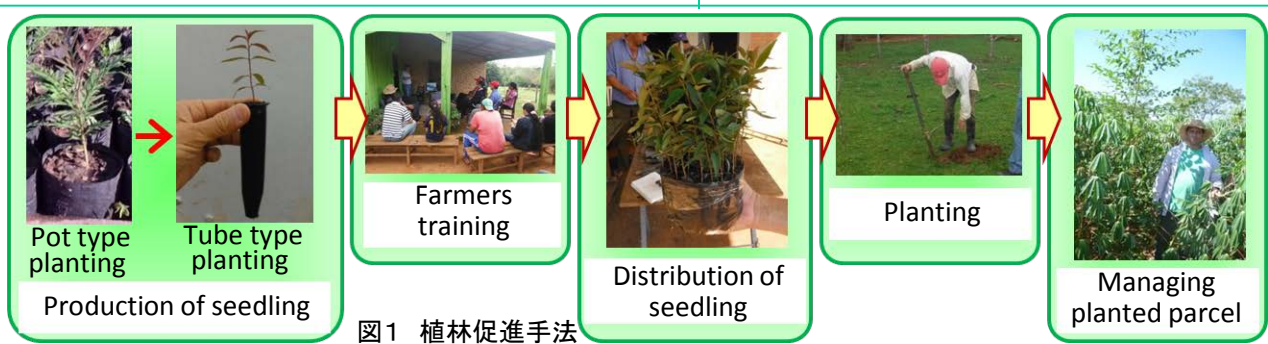
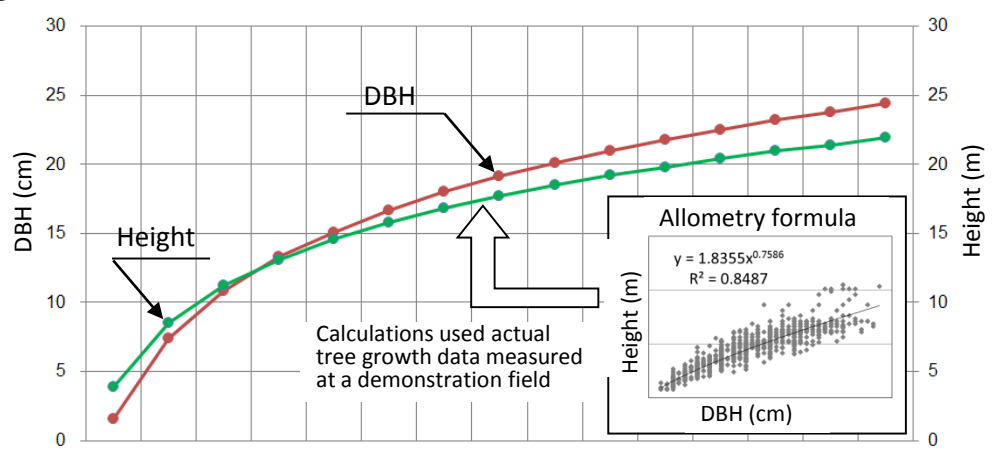


図1 植林促進手法  
Fig. 1. The Reforestation Promotion Method

Conditions for calculating IRR, etc.  
 - Reforestation interval 4m\*2.5m (1,000 trees / hectare)  
 - Annual average growth volume 31m<sup>3</sup>/ha  
 - No thinning, large-scale felling of trees after 5 years  
 - Price Reduction Price Rate = 10% of Net Present Value

IRR: Internal Rate of Return  
 NPV: Net Present Value  
 DBH: Diameter at Breast Height

Notes)  
 IRR that can guarantee profitability is 10% based on the interest rate for deposits in Paraguay Central Bank (10% in 2004).



Tree age (years)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IRR (%)					10.8	11.7	13.6	14.3	14.4	14.2	13.8	13.4	13.0	17.6	16.7
NPV (US\$)					14	40	112	161	196	215	219	213	205	748	704

図2 収益性を確保するためのユーカリ育林目標値及び内部収益率等  
 Fig. 2. Indicators for nurturing forests and desired IRR to ensure the profitability of eucalyptus planting

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