

## **The cost of carbon retention by reduced impact logging**

### **Abstract**

Reduced impact logging (RIL) is one means of reducing the carbon emissions held responsible for global warming. It may also reduce other adverse logging effects. A study of RIL's effects in Sabah, Malaysia, found 44% reduction of area logged within a tract, 22% reduction in timber yield per logged hectare, and 18% increase in cost per m<sup>3</sup> logged compared with conventional logging (CL). Estimated timber yield at the next harvest was 31% higher following RIL. Compared with unlogged forest, RIL damaged rattan, wildlife, soil and water quality values less than did CL. However, RIL's environmental benefits per area of forest logged are considerably compromised by the greater logging area required for a given timber yield. Doing RIL in place of CL had a net cost per unit area at all rates of discount. Per m<sup>3</sup> of timber logged, RIL was beneficial without discounting, but had a net cost at a 2% discount rate and higher. The overall cost of RIL's superior carbon retention varied with both discount rate and level of analysis, from negative price to more than US\$ 50 per megagram at a 10% discount rate. RIL appears most cost-effective on a per m<sup>3</sup> logged basis at low discount rates. However, at commonly applied discount rates (4% and above) RIL's carbon price exceeds most published estimates for carbon prices.