



SER

2017
Iguassu **Brazil**

Linking Science and
Practice for a Better World

VII World Conference on
Ecological Restoration

V Congreso Iberoamericano y del
Caribe de Restauración Ecológica

I Conferência Brasileira de
Restauração Ecológica

August 27 to
September 1, 2017
Recanto Cataratas
Thermas Resort &
Convention
Foz do Iguassu
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BOOK OF ABSTRACTS



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Organizer:

Giselda Durigan

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S78 Restoration Economy I

Organizers: Rubens Benini & Aurélio Padovezi

S78.01 - Costs of ecological restoration in Brazil

RUBENS DE MIRANDA BENINI; FELIPE EDUARDO BRANDÃO LENTI; JULIO RICARDO CAETANO TYMUS; ANA PAULA MOREIRA DA SILVA; INGO ISERNHAGEN

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Aiming to subsidize actions and policies for the development of large-scale restoration in Brazil, the Institute for Applied Economic Research and The Nature Conservancy, started an important study to estimate the costs of implementing key ecological restoration techniques in regions of Brazil. The project also has the support of the Brazilian Agricultural Research Corporation (EMBRAPA), the Brazilian Ministry of the Environment (MMA) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Initially we identified widely used techniques by consulting executives from restoration projects, further characterizing each in terms of required management activities, steps and inputs. Recognizing that initial site conditions play a role in restoration costs, we define two hypothetical scenarios presuming two levels of intervention necessity: Favorable Environmental Conditions – FEC and Unfavorable Environmental Conditions - UEC. Next, we estimated costs for acquisition of each input and execution of each management activity based on data collected from establishments in the restoration sector. The estimated average cost of restoration (US\$/hectare) for evaluated techniques considering both FEC and UEC scenarios is, respectively: dense tree planting of several species through seedling: US\$ 2,271 and US\$ 6,081; dense tree planting of several species through seed: US\$ 2,966 and US\$6,727; density-improvement tree planting through seedling/enrichment planting through seedling: US\$960 and US\$3,323; density-improvement tree planting through seeds/enrichment planting through seeds: US\$172 and US\$2,033; management of advanced natural regeneration: US\$301 and US\$707. The great difficulty of collecting information (e.g. Pantanal and Pampa biomes) highlights the necessity for discussions about ways to monitor restoration costs in Brazil.

S78.02 - How large-scale reforestation with native species can help countries achieve their NDC targets and establish a new forest economy: Preliminary findings of the VERENA project in Brazil

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Boosting the reforestation of native species at scale is an alternative that can generate multiple economic, social, and environmental benefits for Brazil and constitutes an important contribution to Brazil's NDC and the global restoration goal to restore 350 million hectares of degraded lands and forests by 2030.

The VERENA (Economic Valuation of Reforestation of Native Tree Species) project is focused on demonstrating the economic viability of large-scale reforestation with native trees by identifying and disseminating comprehensive information on existing investment cases in Brazil. In order to achieve this goal, 10 investment cases were selected to support the development of a robust economic model and build at least five business cases to be presented to a wide range of stakeholders, including institutional investors, landowners, financing institutions, and governmental agencies. The economic modelling is focused on operational procedures (planting and management); cost of capital; and the economic and financial results (NPV; IRR; Payback; profitability ratios; solvency ratios; cash flows from operating, investing and financing). Additionally, we assess the natural and human capital, with inputs from different streams of cash flows (such as: carbon stock; water flows; preservation area leases; and others). It is ultimately important to calibrate the model on robust business cases with credible and transparent information. Finally, R&D for native tree species to increase yields and improve best management practices is urgent, as productivity is a major driver in our economic valuation.