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Voluntary adoption of management practices to reduce the hydrological impacts of forest operation in Chilean plantation: a trade off among hydrological based evidence, forest certifiers and forest companies

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In Chile, plantation forests have grown in area from some 300,000 ha at the beginning of the 1970s to 2.1 million hectares in 2006. Most of these plantations have been established on eroded and degraded soils on land that has been deforested for decades. In some large river basins, the area under forests has increased considerably since the mid 70's and has helped to reduce soil erosion and improve the stability of sensitive terrains, although annual water runoff reductions have been detected associated to the increase of the evapotranspiration capacity of the new forests.

In spite of several proactive actions developed by forest companies, concern on reductions in water availability during the summer drier months and increases in suspended sediment concentrations during winter wetter periods associated to large scale clearcutting operations have arisen from local rural population, the general public and among interest and environmental groups. These have been confirmed from hydrological researches in small experimental catchments that show that plantation development, road building and final plantation harvesting can locally generate important

changes in water quantity and quality.

Within the framework of the EPIC FORCE project, different policy issues and management practices have been proposed to mitigate the local impacts of forest plantation operations. To move from proposals to the adoption of these management practices, a concordant strategy with the political and economic frame of the country is required. In this case, in a scenario where it is unlikely the adoption of additional environmental standards, the almost only possible way to raise concern on the importance of the management of the riparian areas and the protection of streams and water quality is trough the enhancement of the voluntary forest certification systems. For it, the project has contacted certified forest companies and accredited forest certifiers to introduce improvements to the existing standards and to obtain recognition of the proposed best management practices guidelines as part of the assessment procedures during the development of environmental auditing.

Forest companies in general agree that water protection will be crucial to assure long term plantation sustainability, thus the importance of the EPIC FORCE Project in generating the interaction among government agencies, forest companies and certifiers to discuss and agree possible improvements and modifications of existing standards. The diffusion and socialization of the guidelines is also a way for the understanding of the importance and entailment between the quality of forest operations, the protection of superficial waters and the search of cost efficient measures of simple application.

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