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## [Eucalyptus and pines in the Bolivian Andes](#)

What follows are quotes from research carried out in the Bolivian Andes by Danish researcher Thor Hjarsen, who is one of our readers.

“During the last 13 years a forestry project: "Programa de Repoblamiento Forestal" (PROFOR), has planted more than 15 million trees in the Andean zone in Cochabamba. About 80 per cent of the trees are Eucalyptus globulus and Pinus radiata. This important project [funded by the Swiss government] has largely neglected to acknowledge the role of native tree species for erosion control and preservation of ecosystems and water catchments. Little attention has also been given to the fact, that the indigenous communities also rely on the non-timber resources offered by the Polylepis forests such as medicine plants, game and wild tuber plants.

Fast growing exotics should only be used when a rapid supply of firewood and construction timber is needed and - with great care - for urgent erosion control. Long-term ecological, hydrological and rural socio-economical goals require instead protection and regeneration of the endangered Polylepis forests by true reforestation, and zonation of different land-uses.

I have identified land-use practices in the forestry sector that should be halted immediately due to documented negative effects on the highly threatened biodiversity of the Bolivian Andes. I will express concerns for the negative effects on water-balance, agricultural production and socio-economy from this forestry, which mainly relies on the establishment of plantations with Eucalyptus spp. and Pinus spp. It was found that the exotic plantations did not remove human pressure on native forests, because the exotic trees were regarded as a cash crop by the peasants and landowners. Therefore, wood for household needs was continuously collected in the natural forests and woodlands. The major promoter of plantation forestry in the Cochabamba area is a joint-venture forestry project: Programa de Repoblamiento Forestal (PROFOR). This study also documents that several exotic plantations have been established inside or very close to the native woodlands of the conservation dependent kehuia trees (Polylepis).

I myself worked in the Cochabamba area of Bolivia (one of the endemism centres) trying to assess the impacts on the avifauna and natural vegetation from (traditional) agriculture forestry in the mountain, and from modern plantation projects mainly relying on exotics (Pinus and Eucalyptus). My data shows that the agriculture and forestry practised by the village communities does not pose any significant threat to the endangered bird species or the general biodiversity, as long as native forest vegetation is left between fields or in mosaics. The endangered bird species seems to accept even high levels of human "disturbances". The major factor replacing the endangered avifauna was 1) lack of natural forests and 2) establishment of plantations.

From the above "stories" the approach in these areas to protect biodiversity and regenerate water resources is to: 1) Help farmers with true reforestation and land management 2) Avoid exotics as far as possible.”

Source: Thor Hjarsen, August 1998.

