Coca River, between the Salado pumping station and the Malo River, failures occurred mainly on slopes steeper than 35 to 40°. The same threshold values were obtained for the valley walls of the Salado River and of the Coca River at the confluence of the Salado and Quijos rivers (Figures 5.9 A,B,C). However, on the upper slopes of the ancient cone of Reventador Volcano at elevations above 3,500 m, we observed failure on slopes between 30 and 35°, involving what appear to be very recent ashes. Other types of landslides (rock avalanches, rock slides along high road cuts, slumps and slides along alluvial terraces, and topples of stress-relief slabs) occurred throughout the entire area, but only sporadically.

Areal Distribution of Landslides and Denudation Intensity

Figure 5.10 shows the approximate limits of areas with different degrees of denudation (expressed as estimated percentage of failed slope area per total area) for the slopes of Reventador Volcano and vicinity. Note the large variation in denudation intensity around the volcano. The degree and characteristics of denudation due to landsliding in nearby valleys are as follows:

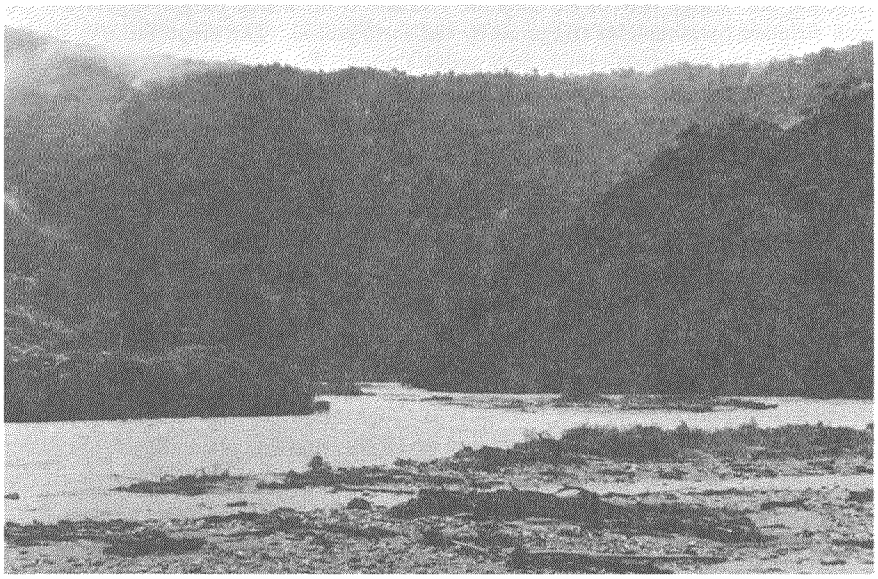

FIGURE 5.9A 1978 view showing the jungle-covered right (SE) valley wall of the Coca River at the confluence (photograph by S. D. Schwarz).

FIGURES 5.9A, B, C Views down the Salado River to the confluence of the Salado and Quijos Rivers to form the Coca River.

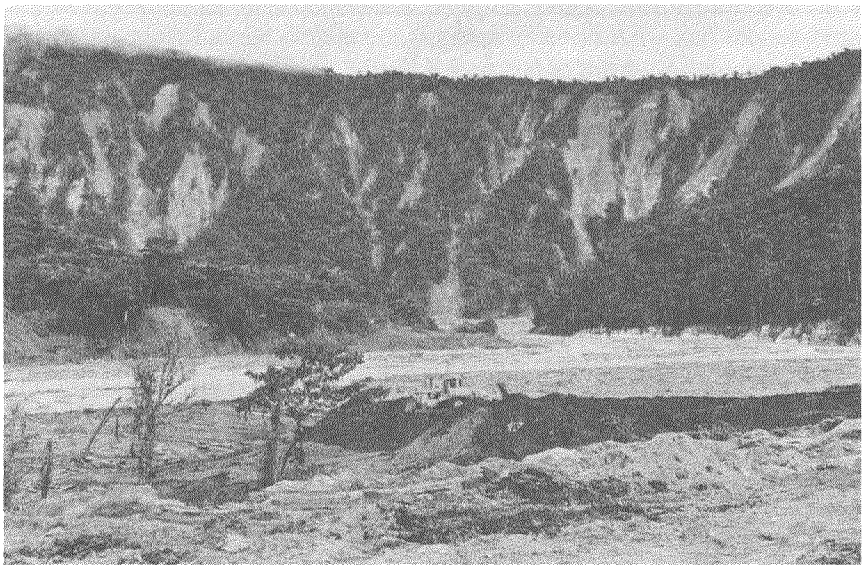

FIGURE 5.9B April 1987 view of the same valley wall showing widespread denudation due to March 5 landsliding.

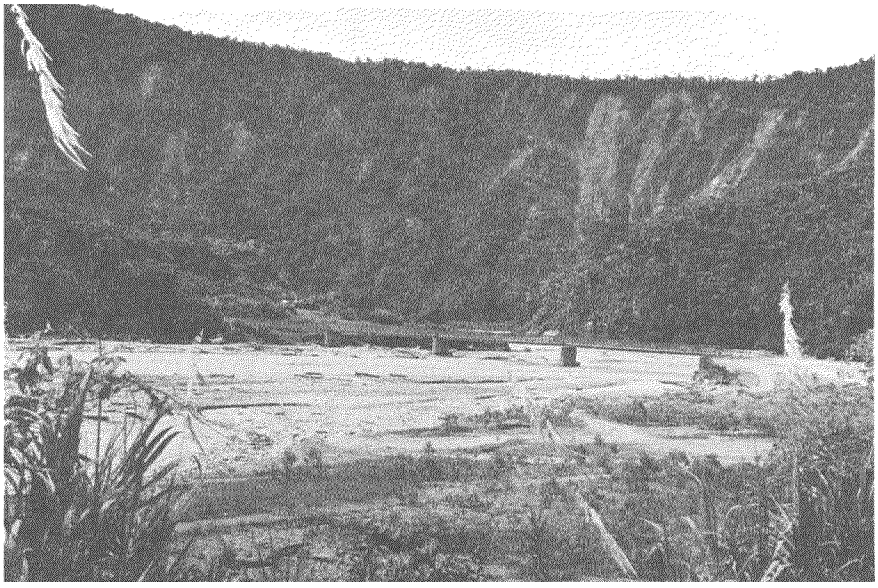

FIGURE 5.9C June 1990 view of the same valley wall showing partial recovery of vegetation on 1987 landslide scars. Note reconstructed Trans-Ecuadorian highway bridge across the Salado River.

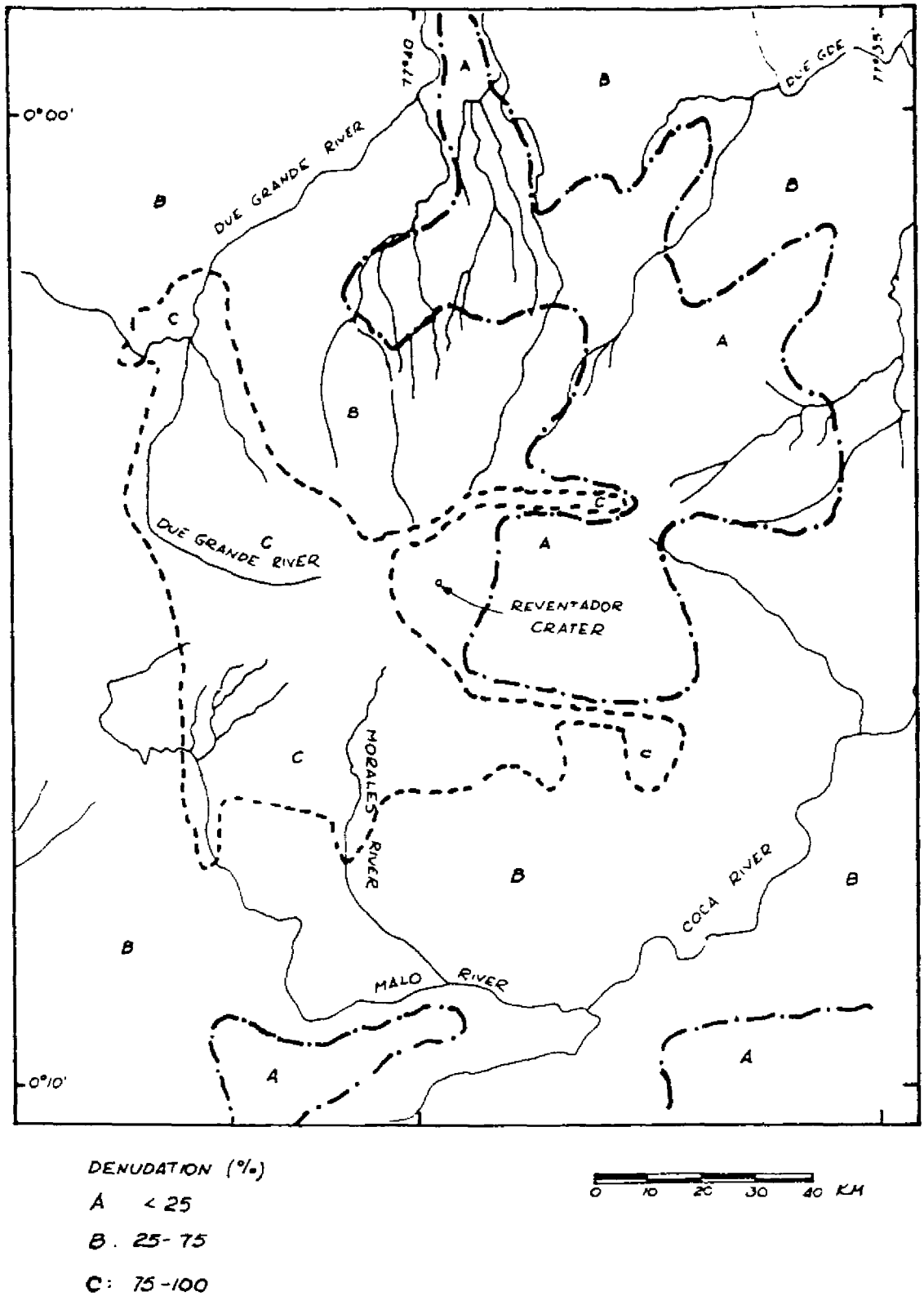

FIGURE 5.10 Map showing percentages of denudation of vegetation due to landsliding in the vicinity of Reventador Volcano, March 5, 1987.