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*Khaya senegalensis* (Meliaceae) is a tree that can attain 35 m in height and is naturally distributed in the dry areas of West Africa. This file includes mean matrices for 12 populations of *Khaya senegalensis* surveyed in Benin (West Africa) from 2004 to 2007. For each population, I averaged three yearly transition matrices (2004-2005, 2005-2006, 2006-2007). These matrices were built using demographic data was collected from the 12 populations using 1-ha plots for each population (two adjacent subplots of 0.5 ha, separated by the river bed when the population was in a gallery forest. In each matrix I classified individual trees in each population into five life stages using their basal diameter (for seedlings and saplings) and DBH (for juvenile and adults): SDL seedlings (diameter at base < 2 cm), SAP saplings (2-5 cm), JUV juveniles (5-20 cm), AD1 small reproductive (20-40 cm), and AD2 large reproductive adults (DBH ≥ 40 cm).

Six of the 12 populations were in the Sudano-Guinean region of Benin (Dogue, Boukoussera, Sinisson, Okpara, Penelan) and the other six populations in the Sudanian region (Nipuni, Barabon, Gbeba, Fetekou, Nigoussourou, Soassararou, Sakarou). These two regions differ in  their annual rainfall, habitat diversity, and soils. The Sudano-Guinean region (7°30′−9°30′N) experiences higher annual rainfall (1100−1300 mm), lower temperature (25−29C), a longer growing season (200 days) and a higher diversity of habitats for *K.  senegalensis* (savanna, woodland, dry dense forest and gallery forests) than the Sudanian  region (9°30′−12°N, with 800−1100 mm rainfall, 24−31°C  temperature, a growing season that last 145 days, and dominated by woodland and gallery forests).

Foliage of *K. senegalensis* serves as a medicine as well as an important browse for cattle in West Africa. During the dry season when herbaceous pastures are scarce, Fulani herdsmen prune fodder trees to feed their cattle. Harvested individuals were mostly reproductive trees with often >80% of their branches harvested and <25% trunk bark removed. The 12 populations that were studied include six that were high harvested (3 in each region) and six other (3 in each region) that were low harvested. High harvest populations (H) had more than 50% of trees pruned (branches harvested by people) (mean [SD] =58.21% [6.80]) and more than 10% of trees debarked (mean [SD] = 17.69% [7.32]). Low harvest populations (L) had < 25% of trees harvested for foliage (mean = 4.80% [3.16]) and <10% of trees debarked (mean [SD] = 9.71% [5.20]). The list of the populations with their name, region and harvest intensity is as follows:

Dogue, Sudano-Guinean, High harvested

Boukoussera, Sudano-Guinean, Low harvested

Sinisson, Sudano-Guinean, Low harvested

Okpara, Sudano-Guinean, High harvested

Penelan, Sudano-Guinean, Low harvested

Sakarou, Sudano-Guinean, High harvested

Nipuni, Sudanian, Low harvested

Barabon, Sudanian, Low harvested

Gbeba, Sudanian, High harvested

Fetekou, Sudanian, Low harvested

Nigoussourou, Sudanian, High harvested

Soassararou, Sudanian, High harvested.