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Selecting Roadside Vegetation

Key Points

- 1 Mix of trees, shrubs and grasses for full range of benefits that vegetation can provide.
- 2 Decide on importance of different qualities and select species accordingly: carbon sequestration, timber value, non timber value, pollution abatement, noise reduction, soil improvement wind break, biodiversity harbour, shading effect, esthetic value, and reduced storm exposure.
- 3 Look at suitability for the concerned hotspot region: the Coastal Zone, the Barind and Drought Prone Areas, the Haor and Flash Flood Areas, the Chattogram Hill Tracts, and the Flood Plains and Estuaries

Specific guidance:

The table below has been developed based on a review of authoritative (agro)forestry and botanical references specific to Bangladesh and tropical Asia, and has been verified with experts.

Tree Species	Flood Plains and Estuaries	Coastal Zone	Haor and Flash Flood Areas	CHT Hill Tracts	Barind and Drought Prone Areas	Storm-proof (wind-firmness)	Stable Root System	Time to Maturity / End of Life	Height at Maintenance
Shorea robusta (Sal)	No	No	No	No	Yes	Moderate	Deep taproot, good for stability	15–20 yrs / up to 100 yrs	15–20m
Heritiera fomes (Sundari)	No	Yes	No	No	No	Moderate	Stilt roots, saline-tolerant	15 yrs / 70–100 yrs	15–20m
Barringtonia acutangula (Hiol)	Yes	No	Yes	No	No	Moderate	Deep-rooted, flood-tolerant	10–15 yrs / 50 yrs	8–12m
Artocarpus heterophyllus (Jackfruit)	No	No	No	Yes	Yes	No	Deep-rooted, pavement-friendly	7–10 yrs / 40 yrs	10–15m
Melocanna baccifera (Bamboo)	Yes	No	No	Yes	Yes	Yes	Fibrous root binds soil on slopes	3–5 yrs / 10–15 yrs	5–10m
Aegle marmelos (Bael)	Yes	No	No	Yes	Yes	Yes	Taproot, drought-resistant	8–10 yrs / 50 yrs	8–10m
Albizia lebbeck	Yes	No	No	Yes	Yes	No	Spreading roots, nitrogen fixer	4–5 yrs / 30 yrs	10–15m
Azadirachta indica (Neem)	Yes	No	No	Yes	Yes	Yes	Deep-rooted, low maintenance	3–5 yrs / 40 yrs	10–15m
Acacia auriculiformis	Yes	Yes	No	Yes	Yes	Yes	Fibrous roots, soil stabilizer	4–6 yrs / 30 yrs	10–12m
Ficus religiosa (Peepal)	Yes	No	No	Yes	Yes	No	Deep roots, pavement-safe	10–15 yrs / >100 yrs	20–30m
Terminalia arjuna	Yes	No	Yes	Yes	No	Yes	Strong roots for erosion control	10 yrs / 70 yrs	15–20m
Dalbergia sissoo (Sheesham)	Yes	No	Yes	No	Yes	No	Taproot, strong wood	10 yrs / 60 yrs	15–20m
Syzgium cumini (Jamun)	Yes	No	Yes	Yes	Yes	Moderate	Deep-rooted, fruit-bearing	6–8 yrs / 50 yrs	10–15m
Moringa oleifera	Yes	No	No	Yes	Yes	Yes	Light roots, fast-growing	2–3 yrs / 20 yrs	8–10m
Dipterocarpus turbinatus	No	No	No	Yes	No	No	Deep taproot, stabilizing	15 yrs / 80 yrs	25–30m
Terminalia bellirica	Yes	No	No	Yes	Yes	No	Strong root, drought-tolerant	8–10 yrs / 60 yrs	15–20m
Saccharum spontaneum	Yes	Yes	Yes	No	No	Yes	Fibrous roots, soil binder	1–2 yrs / 3 yrs	1–2m
Swietenia macrophylla (Mahogany)	Yes	No	No	Yes	Yes	Yes	Taproot, invasive risk	10 yrs / 60 yrs	20–30m
Areca catechu (Betel Nut)	Yes	Yes	No	No	No	Moderate	Fibrous roots, fairly stable	7–8 yrs / 60–100 yrs	15–20m
Palmyra palm	Yes	Yes	No	No	Yes	High	Deep anchorage	14–15 yrs / 60 yrs	25–30m

Tree Species	Carbon Seq.	Timber Value	Non-Timber Value	Windbreak Value	Shading Value	Biodiversity Harbour	Pollution Absorption	Dust Trapping
Shorea robusta (Sal)	High	High (furniture)	Resin, leaf plates	Moderate	Moderate	Supports birds, mammals, insects	Moderate	High
Heritiera fomes (Sundari)	Very High	High	Medicinal, tannin	High	Low	Nurseries for fish, birds, reptiles	High (heavy metals)	Moderate
Barringtonia acutangula (Hiol)	Moderate	Low	Flowers used locally	Low	Moderate	Attracts wetland birds, bees	High (nutrient filter)	High
Artocarpus heterophyllus (Jackfruit)	High	Medium	High-value fruit	Moderate	High	Habitat for insects, squirrels	Moderate	Moderate
Melocanna baccifera (Bamboo)	High (fast growth)	High (construction)	Crafts, shoots, fencing	Moderate	Moderate	Understory wildlife shelter	Moderate	High
Aegle marmelos (Bael)	Moderate	Low	Fruits, medicinal uses	Moderate	Moderate	Attracts bees, birds	High	Moderate
Albizia lebbeck	Moderate	Moderate	Shade, fodder, medicine	High	High	Insect and bird-attracting	Moderate	High
Azadirachta indica (Neem)	Moderate	Low	Medicinal, pest repellent	Moderate	Moderate	Habitat for beneficial insects	High (air purifying)	Moderate
Acacia auriculiformis	Moderate	Medium	Pods, firewood, gum	Moderate	Moderate	Shelter for birds	Moderate	Moderate
Ficus religiosa (Peepal)	High	Low	Shade, cultural	Moderate	High	Hosts birds, insects, epiphytes	Moderate	High
Terminalia arjuna	High	Moderate	Bark (medicinal)	Moderate	Moderate	Bird nesting, bees	High	Moderate
Dalbergia sissoo (Sheesham)	High	High	Fuelwood, shade	Moderate	Moderate	Hosts insects, birds	Moderate	Moderate
Syzgium cumini (Jamun)	Moderate	Low	Fruits, medicine	Low	High	Birds, bats	Moderate	Moderate
Moringa oleifera	Moderate	Low	Nutrient-rich leaves	Low	Moderate	Bees, insects	High	Moderate
Dipterocarpus turbinatus	Very High	High	Resin, medicinal	Moderate	Low	Birds, insects	Moderate	Moderate
Terminalia bellirica	High	Moderate	Medicinal fruits	Low	Moderate	Birds, bees	Moderate	Moderate
Saccharum spontaneum	Low	None	Fodder, erosion control	Low	Low	Hosts small wildlife	Low	Moderate
Swietenia macrophylla (Mahogany)	High	Very High	Shade	Moderate	Moderate	Limited biodiversity support	Moderate	High
Areca catechu (Betel Nut)	Moderate	Moderate	Nuts, fronds and fibers	Low	Moderate	Attracts pollinators, bees, insects	Moderate	Moderate
Palmyra palm	Moderate	Moderate	Fruit, sap, leaves	Low	Moderate	Attracts wildlife, supports local fauna	Moderate	Moderate



Increasing Resilience of Rural Infrastructure and Local Communities through Green Roads Concept