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## Challenges for establishment of oilseed bearing trees in semiarid tropics of Bundelkhand, India

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### ABSTRACT

Environment, energy and food security are the key instruments in recent days guiding global policies. All governments across the globe are working towards green economy. Thus all available resources including wastelands have been pressed to produce biomass to meet energy demand. Therefore, all governments started programmes for managing and rehabilitating wastelands with suitable productive technologies generally by establishing forest cover in arid or drought-stricken regions which is a challenging task. The semi-arid lands of the world are characterized by low and unreliable rainfall, with lack of soil moisture during all or part of the year being the predominant limitation to vegetative growth. Greening of such lands with certain economic returns holds key for livelihood security and economic prosperity of the dry arid regions. Thus we made an attempt to assess the claims made against potential of various trees bearing oilseeds (TBOs) species from field data by establishing plantation with moisture conservation measures in Bundelkhand, one of the most backward regions in the country. We selected local TBOs viz *Madhuca latifolia* (mahua), *Azadirachta indica* (neem) and *Pongamia pinnata* (karanj) for the study. This paper highlights actual field problems such as moisture stress, effect of *Loo* and wildlife damage faced by individual species in their early establishment in the region. *In-situ* moisture conservation measures viz., double trench, single trench and v-shape catment, though retains high soil moisture content fail to support saplings survivability during hot summer. Mahua and neem requires protection and life saving irrigation during summer period thus we proposed to provide individual trees guard protection to ensure early growth in the region. We found that karanj has potential to withstand in these dry tracts without irrigation and protection however economics of harvest yet to be verified from field data for these species. Thus we suggest region specific TBOs plantation programme ought to have fund earmarked for protection, irrigation and after care instead of large area coverage.