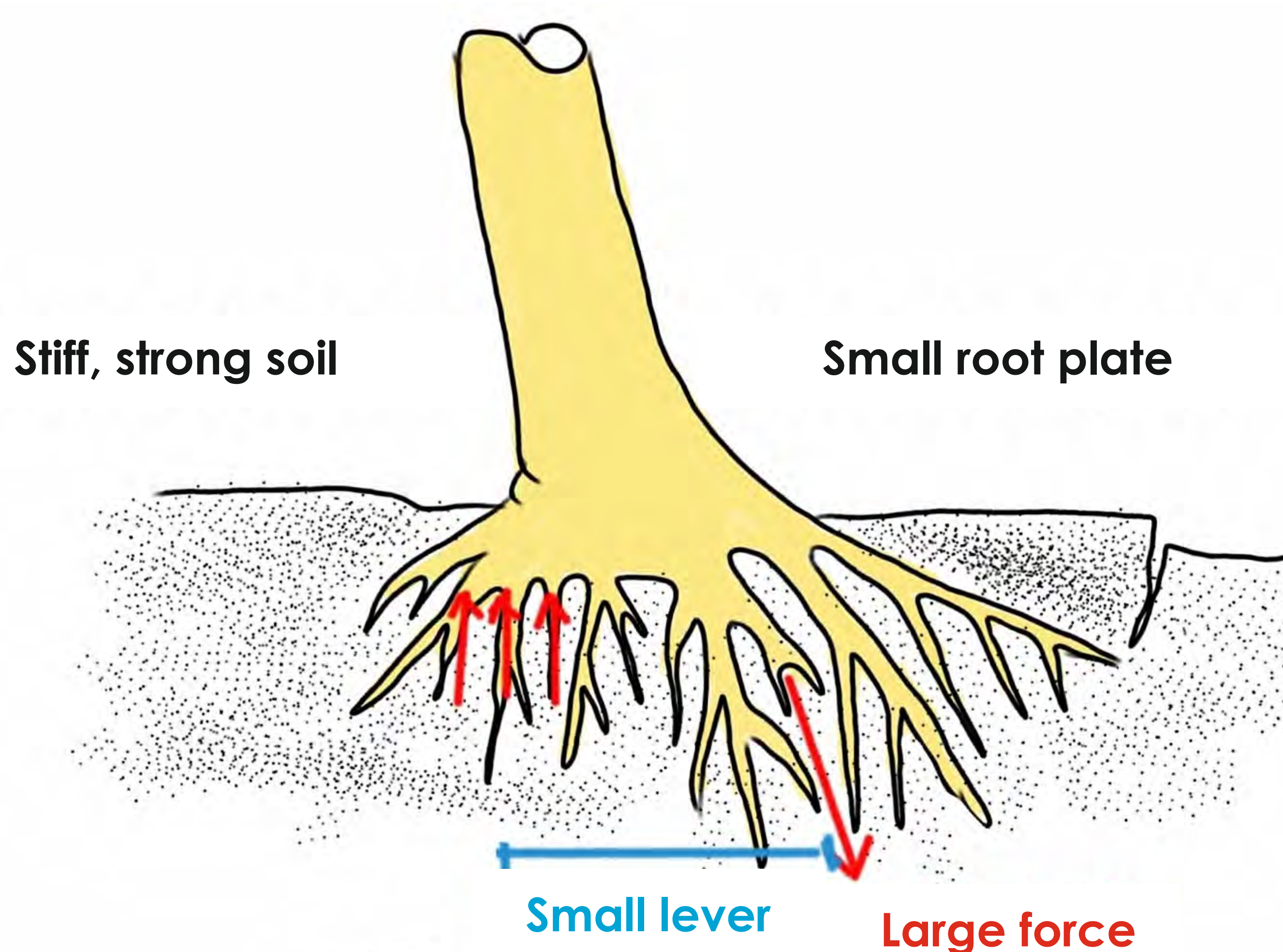


Safety with stiff or weak root plate

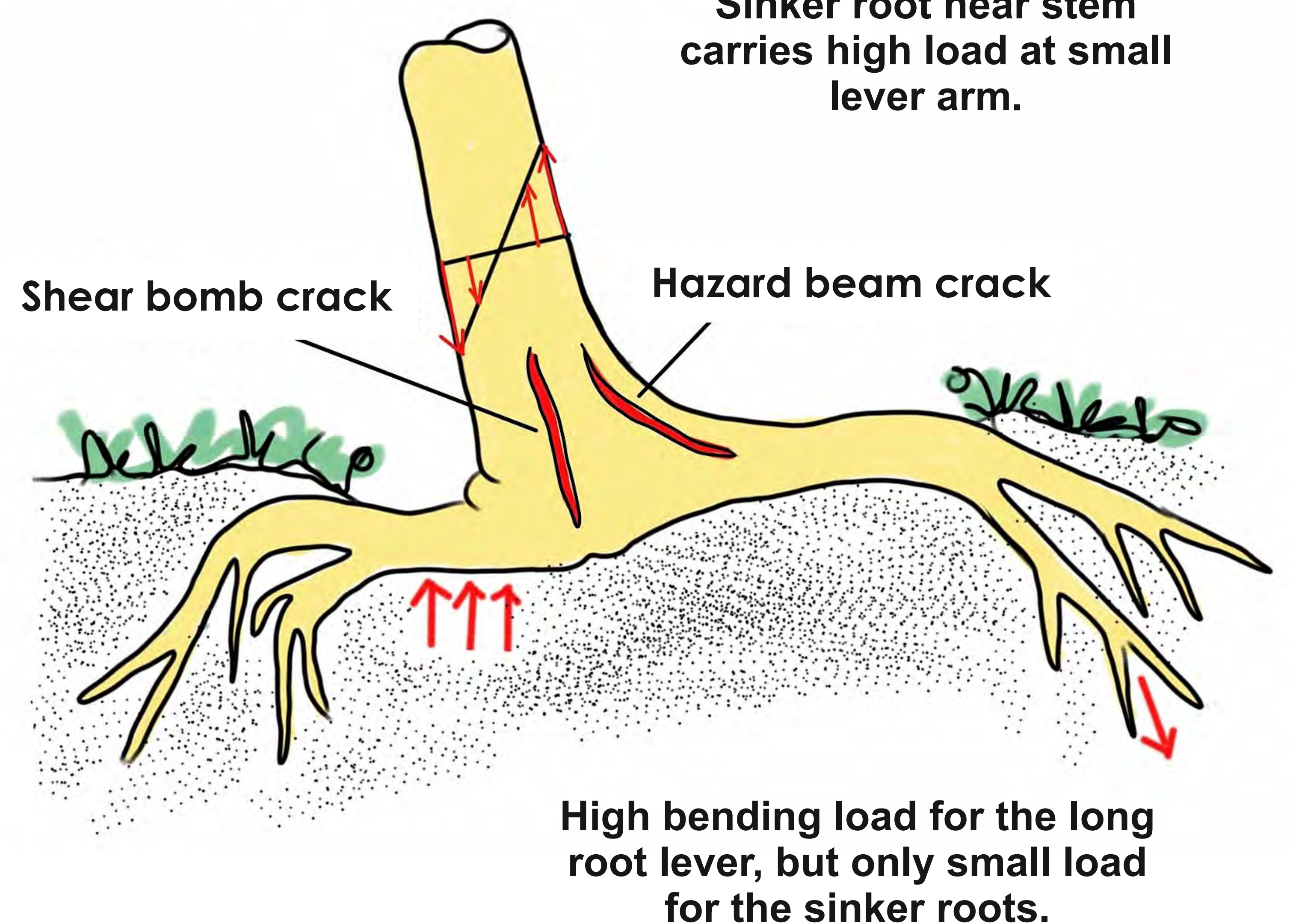
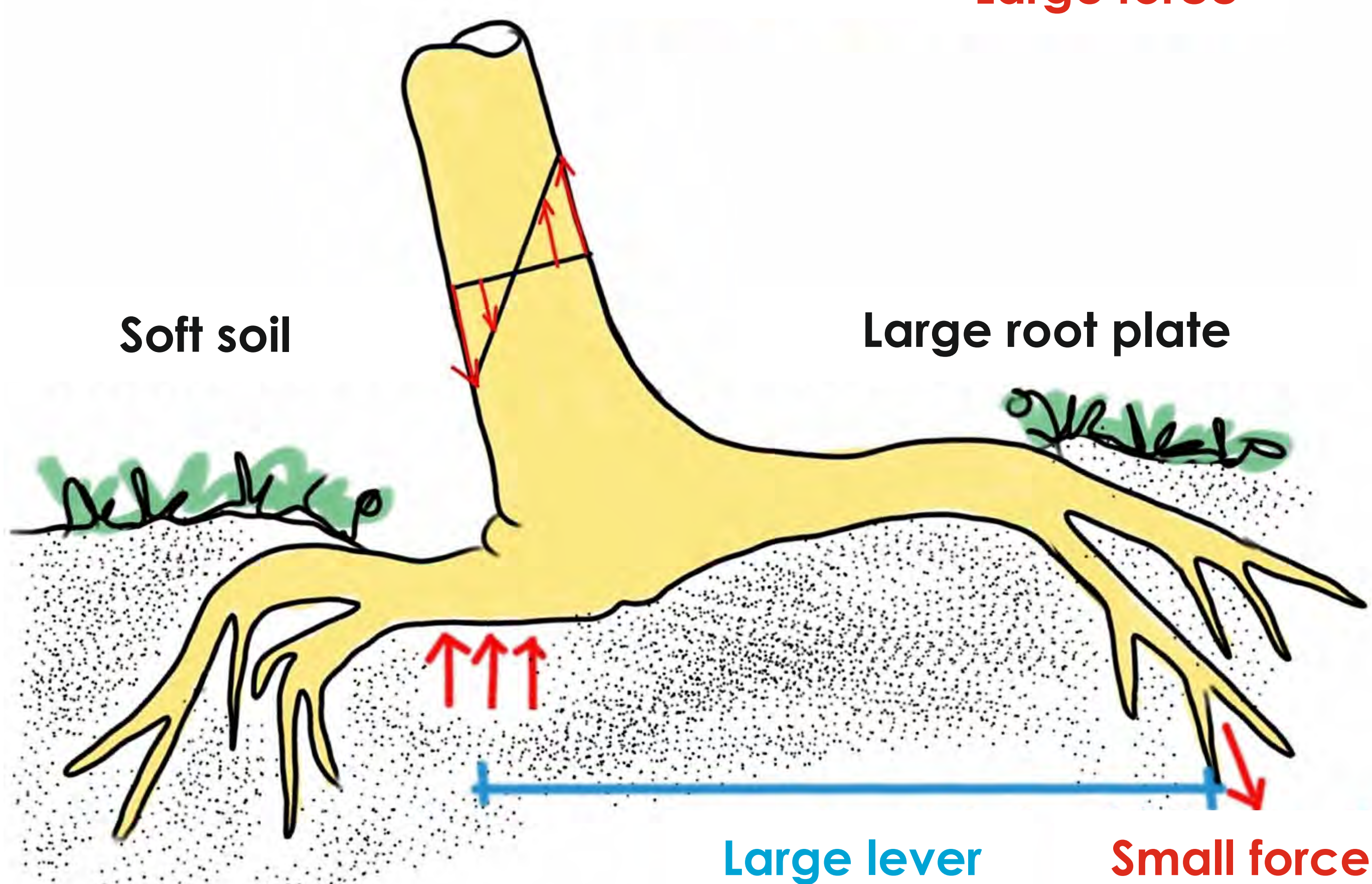
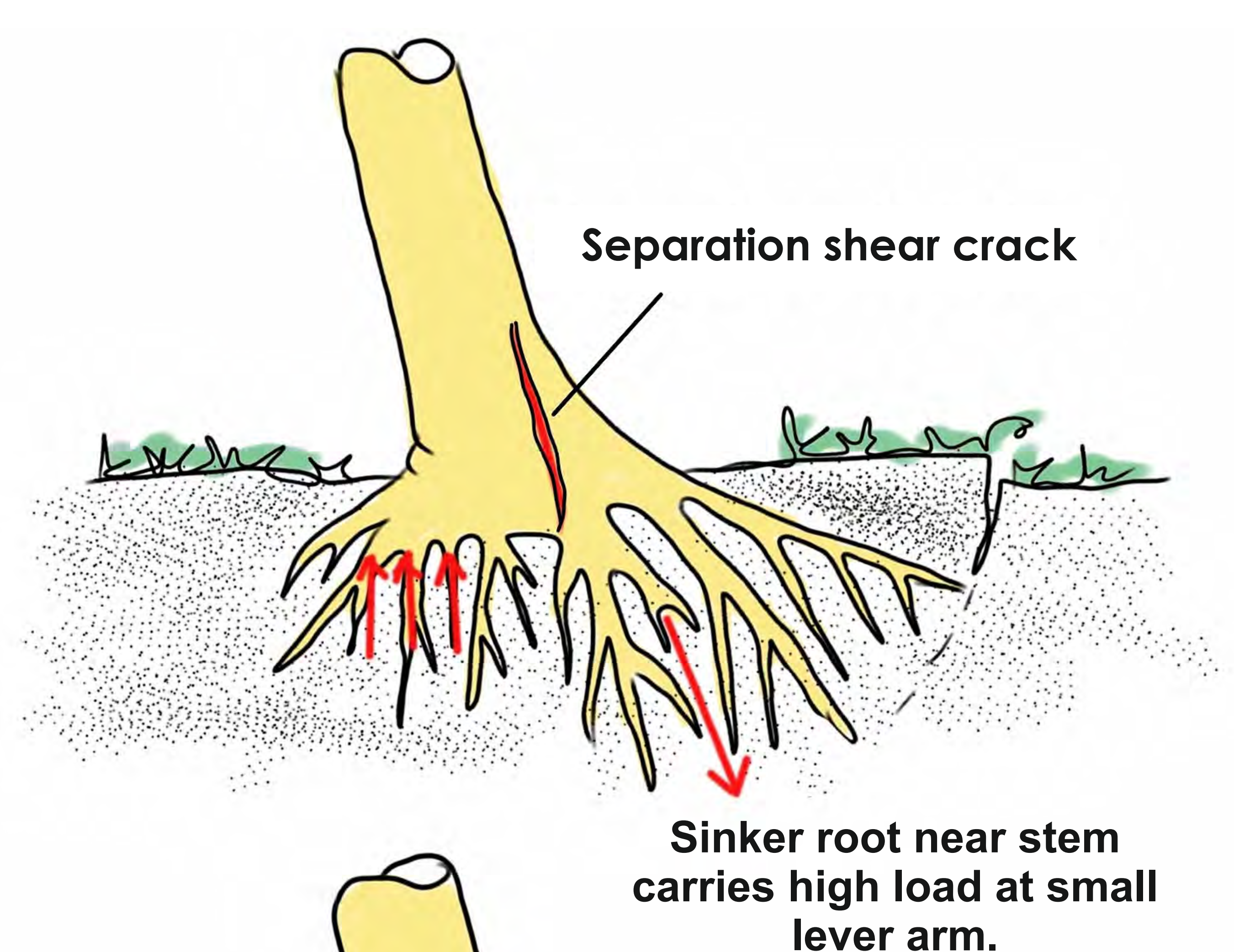
C. Mattheck, K. Bethge, K. Weber, I. Tesari

Adaptation of root shape to soil characteristics:

Stiff roots on stiff ground



Root shape and crack formation



Soft roots on soft soil

Summary: On stiff clay soils, a small root plate with highly loaded sinkers is sufficient. On soft sandy soils, the sinker further away from the stem, due to their long lever arms, carry only small loads, which can be taken up from the less strong soil. Queen of long lever arms, soft in bending, is the mangrove, which anchors in soft mud. For the same wind load different inclinations are due to different anchor strategies. They do not necessarily indicate a risk.